OUT OF SCHOOL
Ohio University's CIO resigns following several data breaches there. **PAGE 7**

A DEEPER LOOK AT BPM
Thornton A. May suggests four questions to ask before spending a dime on business process management. **PAGE 18**

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JULY 17, 2006 ■ VOL. 40 ■ NO. 29 ■ $5/COPY

Federal ID Mandate Tests Health Insurers

Compliance efforts go down to wire; data still lacking

BY HEATHER HAVENSTEIN

Ten years after HIPAA became a federal law, health insurers are scrambling to make changes to their IT systems in order to comply with one of its last major requirements: the ability to process claims and other electronic transactions using standardized ID numbers for doctors and hospitals.

But insurers' efforts to ready their systems are being hampered by the sluggish pace at which many health care providers are adopting the new numbers, IT executives at more than a half-dozen Blue Cross and Blue Shield health plans said last week.

The Health Insurance Portability and Accountability Act, which was approved in August 1996, mandates that all health care providers covered under the legislation obtain a 10-digit National Provider Identifier number to use in certain transactions. Large insurers — most of which now use multiple internal ID numbers to track providers — must begin processing documents with the NPIs by May 23, 2007. Smaller health plans have another 12 months to comply.

Blue Cross and Blue Shield of North Carolina plans to make the required changes to its IT systems and business processes by September. However, the Durham-based company estimates that only 20% of the doctors and hospitals

HIPAA, page 48

INSIDE
The U.S. House hopes to boost energy efficiency in data centers. Page 6

VoIP Systems Increase Network Support Burdens

Quality needs, new apps create snags

BY MATT HAMBLEN

The complexity of managing and maintaining voice-over-IP systems is posing more problems than many IT managers initially expected, spurring demand for so-called Day 2 support services, users and analysts said last week.

"VoIP is not a slam-dunk, and there are unexpected support issues," said John Wade, CIO at Saint Luke's Health System Inc. in Kansas

VoIP, page 14

Microsoft Users Lack Assurance

IT execs plan to renew SA pacts — but grudgingly

BY ERIC LAI

Microsoft Corp. last week unveiled a group of new and upgraded offerings for companies subscribing to its controversial Software Assurance maintenance plan. But even with the additions, SA continues to get very mixed reviews from IT executives.

Some Microsoft customers said the new perks sweeten the SA pot. But others are still less than thrilled about putting their money down on the maintenance program.

"I think we're getting value for SA. [But] we're certainly getting complexity," said Zeke Duge, CIO at Smart & Final

Microsoft, page 14

SPECIAL REPORT | CAREERS

The IT Profession: 2010

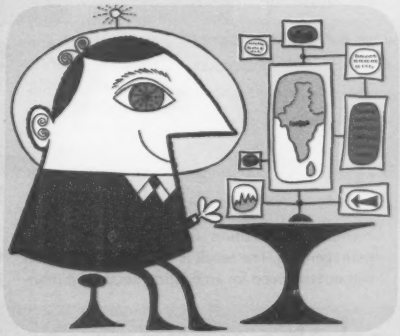

ILLUSTRATION BY MELINDA BECK

FOUR YEARS FROM NOW, the IT field will be a vastly different place, shaped by different skill priorities, deeper outsourcing and baby boomer retirements. In this special report, we offer predictions and advice to help you prepare for the future.

STORIES BEGIN ON PAGE 21.

ONLINE: What's ahead? IT career specialists David Foote and Katherine Spencer Lee answer some reader questions. **computerworld.com/blogs/careerforum**

NEWSPAPER.

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iTag delivers affordable, scalable document management

Kyocera ushers in new era of office productivity with user-friendly solutions

THE NEED FOR A SIMPLIFIED DOCUMENT MANAGEMENT SOLUTION is pervasive across virtually all businesses and organizations. The sheer volume of documents passing through today's businesses and the rising tide of regulatory requirements such as Sarbanes-Oxley have escalated this need in recent years.

In the past, a reliable, scalable, and cost-effective document management solution has been out of reach for most organizations. Some lack the right infrastructure while others do not have the personnel to deploy and manage the solution. And still others lack the budget necessary for a truly comprehensive and scalable solution.

Now Kyocera has unveiled iTag, an out-of-the-box document management solution that is both easy to install and flexible in order to meet rapidly changing business needs. iTag is developed specifically for small businesses and departments as a solution for efficient document management. The result is a simplified solution without the need for an existing document management back-end system and without the tedious, expensive, and time-consuming processes encountered when filing, organizing, and sharing large numbers of documents.

iTag comes bundled with Microsoft Windows® SharePoint Services, a document management repository that handles the storing of documents and images while interfacing seamlessly with a user's work environment.

EASE OF USE PLUS FLEXIBILITY

Take a typical office, for example. Every business has at least one hard-copy critical business document that is used on a daily basis, such as an invoice or purchase order. With three simple steps, iTag makes quick work of scanning and storing this document for easy search and retrieval:

1. Fill in index fields/"tags" at the Control Panel of an iTag-enabled Kyocera multifunctional product (MFP)
2. Press Start to send the document to Microsoft Windows® SharePoint Services
3. Search for and retrieve scanned documents at any PC or workstation

While iTag is a new offering, it is based on the core technology from KYOcapture, Kyocera's award-winning, server-based document capture workflow solution. iTag integrates with select Kyocera MFPs and ships with the iTag Validation Station, a Dell™ server preloaded with the iTag software, Microsoft Windows® SharePoint Services, and one MFP device connection for out-of-the-box functionality.

ONE-TOUCH DOCUMENT MANAGEMENT

The iTag Validation Station lets users review a scanned image and then quickly and easily reorder or remove pages from a multipage file. All this and more can be done with the touch of a button.

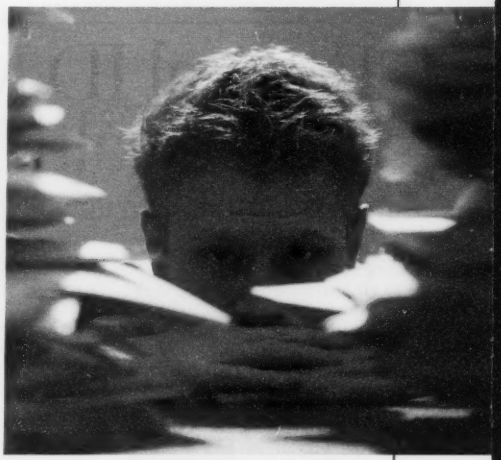
With iTag, department administrators can easily manage both document security and document access. Users, meanwhile, have all the flexibility they'll need to share and access information quickly, giving their productivity a big boost.

AS YOUR NEED GROWS

As the needs of iTag users continue to grow, iTag offers the option to upgrade to KYOcapture. Having the capability to integrate with existing or new document/content management systems, KYOcapture works as an intelligent document capture workflow solution for capturing, processing, and routing large document workloads. KYOcapture also gives users enhanced capabilities to route documents to multiple locations, including a database, PC, or other document/content management solutions.

For more information about Kyocera's Document Management Solutions, visit www.kyoceramita.com

iTag
Don't file it, Tag it



KYOCERA

And the winner is...

There is nothing like the praise of independent third-party test groups and laboratories to validate the reliability and service of technology products, and Kyocera has certainly earned its share lately. Highlighting a number of industry awards earned by Kyocera is the one from J.D. Power and Associates. The firm recently named Kyocera the "#1 Copier/Multifunctional Product in Overall Customer Satisfaction Among Business Users" in its annual satisfaction survey. Indeed this study was based on responses from 1,730 decision makers with 16 brands being evaluated.

Low in total cost.

"#1 Copier/Multifunction Product in Overall Customer Satisfaction Among Business Users"
– According to J.D. Power and Associates

High in reliability.

Cost-effective Documents: On Time, Every Time

Kyocera printers deliver the best of both worlds: award-winning reliability and proven performance along with virtually the lowest total cost of ownership in the industry. And, our full range of printers and MFPs give your business outstanding document solutions using advanced technology that makes document imaging simple and more productive. In fact, our online TCO Tracker* tool allows you to calculate what you'd save by switching from your current printer to an equivalent Kyocera model. **That's the power of People Friendly. Learn more: www.kyoceramita.com**

People Friendly.

THE NEW VALUE FRONTIER

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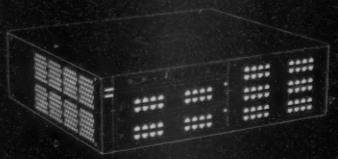
Gigabit to the edge

The attainable source of power and performance



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07.17.06

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6 The House passes a bill requiring the EPA to study ways to encourage IT managers to make data centers more energy-efficient.

6 DHS officials are criticized by the Government Accountability Office and the agency's inspector general over contract management and data security issues related to the US-VISIT program.

7 The recent theft of hardware containing veterans' personal data revealed serious lapses up and down the chain of command at the Department of Veterans Affairs, according to a report by the VA's inspector general.

7 Ohio University CIO William Sams is relinquishing his post following the disclosures of a string of security breaches on the school's networks and systems.

10 As business intelligence tools proliferate throughout companies, IT managers are starting to monitor their usage and the performance of BI systems.

10 IBM is working with colleges and universities in an attempt to boost the available labor force for its System i5 midrange line.

12 EMC plans to build encryption technology from soon-to-be-acquired RSA Security into its disk arrays, but it isn't saying when that will happen.

12 Q&A: Roger Burkhardt, the new president of Ingres, says the open-source database vendor doesn't have bleeding-edge technology — nor does it need that to appeal to corporate users.

16 Global Dispatches: The European Commission fines Microsoft for failing to comply with its March 2004 antitrust ruling.

17 Q&A: McAfee CEO George Samenuk discusses Microsoft's IT security plans and how they will affect users as well as his company.

OPINIONS

8 On the Mark: Mark Hall says that if one vendor's software exchange program catches on as a concept, it could help eliminate the problem of shelfware once and for all.

18 Don Tennant believes that an innovative approach, a willingness to sacrifice and an ability to laugh at it all are required to compete in a global economy.

18 Thornton A. May takes a look at what underlies the business process management hype.

19 Bruce A. Stewart says it's time for IT infrastructure managers to take action — even though they've been conditioned not to.

50 Frankly Speaking: Frank Hayes explains why he believes the Veterans Administration has one of the best — and worst — IT shops around.

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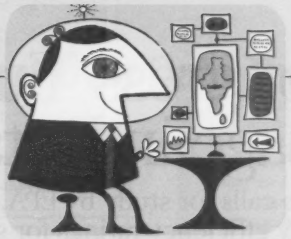

SPECIAL REPORT CAREERS

The IT Profession: 2010

The IT field is changing fast. In this special report, we take a look at the IT profession in the year 2010, including tips for getting your skills in line with the hottest jobs and how to turn globalization to your advantage. **Page 21**

22 Hot Skills, Cold Skills. Experts say the IT department of 2010 will be populated with "versatilists" — people with technology backgrounds who also know the business sector inside and out. These individuals will be able to architect and carry out IT plans that will add business value, and they'll cultivate relationships both inside and outside the company.

26 Research Insights. Forty-seven percent of respondents to a recent *Computerworld* poll reported outsourcing as the biggest threat to their job or career. Find other statistics and analysis from our exclusive survey on our research page.

28 The World Gets Smaller Still. Globalization is turning the IT profession on its head once again. Yet the increase in demand for higher-level skills could be a boon for U.S. IT workers who are ready to move with the times.

32 H-1B Remains a Hot-Button Issue. Read how new immigration laws and potential changes to the H-1B temporary visa program could affect the state of the IT profession by 2010.

34 Boomers Bid Farewell. As mature workers retire, they will take with them valuable institutional knowledge. Mentoring programs and flexible work arrangements to keep baby boomers on staff longer will help stem the crisis.

36 New Recruits Still Scarce. Companies and educators hope to reverse the IT skills shortage with smart ideas to entice fresh talent to the field.

38 There's a Merger in Your Future. Merger and acquisition activity shows no signs of abating. The IT workers of 2010 will need to keep their tech skills tightly aligned with the business to hang on to their jobs.

40 Line Between Business and IT Blurs. Deep technical skills will still be needed in 2010, but as IT departments align resources with company goals, tech workers will need more business knowledge. "You'll see more opportunities to cross between the lines," says Tasty Baking Co. CIO Autumn Bayles.

42 Opinion: IT Sweet Spots: 2010. What do Wayne Gretzky, Gen. Gebhard Leberecht von Blucher and Ross Perot have in common? They all have something illuminating to say about predicting the future, says columnist Thornton A. May.

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Got an opinion about what skills will be hot in 2010 or what impact baby boomer retirements will have on the IT profession? Send your comments and questions about this special report to computerworld.com/blogs/careerforum.

Career experts David Foote, president and chief research officer at Foote Partners LLC, and Katherine Spencer Lee, executive director of Robert Half Technology, will answer select questions online.

AT DEADLINE

Managers at Intel Face Job Cutbacks

Intel Corp. said it will cut about 1,000 management jobs as part of its effort to rebound from weak financial performance in recent quarters. The layoffs, which follow an April pledge by CEO Paul Otellini to restructure the company, will be completed this month, according to an Intel spokesman. He described reports that larger cutbacks are on the way as "speculation" but added that "the efficiency analysis continues."

EMC Misses Sales Target in Q2 . . .

EMC Corp. fell short of its earnings expectations for the second straight quarter and blamed the shortfall on product transition snafus involving its Symmetrix high-end disk arrays. CEO Joe Tucci said that EMC had overstocked its older DMX2 arrays and didn't have enough of its DMX3 devices to meet demand. The company reported revenue of $2.57 billion for the second quarter after projecting a business level of $2.66 billion.

. . . And Plans More Low-End Arrays

During a conference call about EMC's second-quarter results, Tucci also said the company is developing a new line of low-end storage products. EMC announced its Clariion AX150 low-end array in April, but that isn't sufficient by itself, according to Tucci. "Our goal is to be a leader in low-end storage too," he said. Tucci didn't disclose a schedule for delivering the additional products.

SAP Falls Short On Software Sales

SAP AG announced preliminary second-quarter software license revenue of €621 million ($786 million U.S.), up 8% year over year but well below financial analysts' forecasts. The company's final results for the quarter are scheduled to be disclosed on Thursday.

Congress Targets Energy Usage in Data Centers

House calls for study by EPA, seeks energy efficiency ratings for servers

BY PATRICK THIBODEAU
WASHINGTON

POWER USAGE at fast-growing server farms became an issue for Congress last week. The U.S. House of Representatives overwhelmingly approved a bill requiring a federal study of ways to improve the energy efficiency of servers and data centers.

The legislation, backed by IT vendors and approved by a 414-4 House vote, now goes to the Senate. If enacted, it would require the U.S. Environmental Protection Agency to recommend incentives and voluntary programs to cut power consumption at data centers in the federal government and the private sector.

Rep. Michael J. Rogers (R-Mich.), the bill's sponsor, said that he hopes the EPA study will build support for energy efficiency ratings for servers modeled on the Energy Star ratings for home appliances. It may also lead to incentives for users who buy energy-efficient servers and to rules governing servers bought by federal agencies, Rogers said.

Vendor Initiative

Major IT vendors are already working on a specification for measuring the energy efficiency of servers at different performance levels so buyers can comparison-shop. In May, Standard Performance Evaluation Corp., a nonprofit standards group in Warrenton, Va., set up a committee to prepare a standard for ratification sometime next year.

"There needs to be a standard way of measuring so customers can compare efficiency between servers," said Andrew Fanara, a team leader for the EPA's Energy Star program. "Right now, they can't do that in any standardized way."

But it remains to be seen whether energy ratings will alter the buying habits of IT managers, who may be constrained by business requirements for processing speed.

"When you are looking at this from a business perspective, you want this stuff to work as quickly and as efficiently as possible," said Troy Montfort, data center manager at Spectrum Health Hospitals in Grand Rapids, Mich. When it comes to choosing between a slower server that generates less heat and a faster server, IT managers will probably go for the faster system, he said.

An energy rating on a refrigerator is one thing, but for a server, "it's a whole different world, in my opinion," said Montfort. "In the health care industry, when I have a doctor wanting somebody's record or [a] look at their CT scan, he doesn't want to sit and wait for that thing to load; he wants it, and he wants it now."

The House bill urges IT managers to "give high priority to energy efficiency as a factor in determining best value and performance for purchases of computer servers."

The energy efficiency of a server "is an important consideration, because we have been dealing with power issues," said Dawn Sawyer, operations manager at GuideStone Financial Resources of the Southern Baptist Convention in Dallas. "It is not the main consideration, though. Our main consideration on servers is processor speed. That's going to trump the energy efficiency of a server." ▸

EFFICIENCY MOVE

HR 5646

Status: Approved by the House, headed to the Senate

Provisions: It would require the EPA to do the following:

- Analyze the energy consumption of servers and data centers and the potential cost savings if they were more energy-efficient.
- Consider the effect of energy efficiency measures on server performance.
- Recommend incentives and voluntary programs to encourage the adoption of energy-efficient servers.
- Study the potential benefits of using fuel cells for backup power.

Timing: If the bill becomes law, the EPA will have 180 days to complete the study.

Reports Slam DHS on Data Security, Contract Oversight

BY LINDA ROSENCRANCE

Two newly released government reports criticize the U.S. Department of Homeland Security for data security and IT contract management shortcomings within the agency's program for controlling and monitoring the entry and visa status of foreign visitors.

The contract management report was publicly released by the Government Accountability Office last Monday, and a partially censored version of the security-related report was made available July 7 by the inspector general's office within the DHS.

The GAO said DHS officials responsible for the U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program didn't establish effective financial controls for overseeing work performed on its behalf by other agencies. That includes U.S. Customs and Border Protection, which manages a system that maintains watch-list data and captures passenger arrival and departure information provided by air and sea carriers.

As a result of the oversight problems, the US-VISIT program office didn't understand exactly how much was being spent on contracts or whether the work was being done on time and within budgets, the GAO claimed in the report. It added that the DHS and the other agencies made duplicate payments on invoices and used funds designated for US-VISIT to pay for services that weren't related to the program.

The GAO recommended that DHS Secretary Michael Chertoff direct the US-VISIT program office to take steps designed to strengthen its contract management capabilities.

Room for Improvement

In a written response to the GAO, a DHS official said that although the agency disputes some of the findings in the report, it agrees with the recommendations and recognizes the need for improvement.

The other report, issued by Richard Skinner, inspector general at the DHS, said the agency hasn't properly configured a database in which personal information captured by radio frequency identification (RFID) devices is stored. The security gaps could be exploited to gain unauthorized or undetected access to sensitive data, according to the report.

In a written response, James Williams, director of the US-VISIT program, said steps have already been taken to strengthen account management procedures for the database. However, he disagreed with a recommendation that RFID-specific policies be set. Existing policies cover the security of data, whether it is collected via RFID or other technologies, he said. ▸

Inspector General Calls VA on Carpet Over Data Theft

Internal report cites 'indifference' of security officers

BY JAIKUMAR VIJAYAN

Information security officers and other officials at the U.S. Department of Veterans Affairs reacted with "indifference" and a "lack of urgency" after learning about the theft of computer hardware containing personal data on millions of veterans, according to a report released last week by the agency's inspector general.

The report also says that process and policy failures, a lack of supervision and personal squabbles contributed to the security breach and the VA's response to the incident. The inspector general recommended several steps for addressing the shortcomings, including the adoption of a "clear, concise" policy for safeguarding sensitive data.

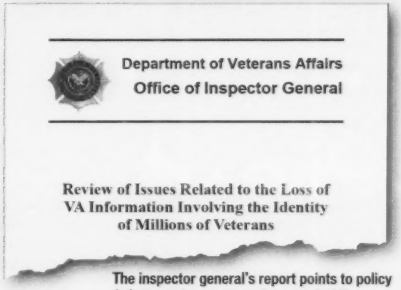
In a letter to the inspector general that was included with the report, VA Secretary R. James Nicholson said he fully concurs with the recommendations and is committed to making the VA "a gold standard" for information security among government agencies.

The security breach "exposed deficiencies in information security involving leadership, policies and procedures," Nicholson wrote. "That will change during my tenure." He added that he has made it clear inside the VA that improving security and reorganizing the agency's Office of Information Technology "are my top priorities going forward."

'Decades of Neglect'

But Bruce Brody, a former chief information security officer at the VA, called the inspector general's findings a little underwhelming. The report "points fingers at all the symptoms instead of all the underlying causes," said Brody, who is now a security consultant at Input in Reston, Va.

A lot of the problems at the VA involve systemic cultural issues and an environment in which the agency's IT and security offices traditionally have had far too little authority to be really effective, Brody claimed. "Decades and decades of neglect and a fierce resistance to centralized authority are the root causes for this," he said.


Department of Veterans Affairs
Office of Inspector General
Review of Issues Related to the Loss of VA Information Involving the Identity of Millions of Veterans
The inspector general's report points to policy failures and poor supervision at the VA.

The names, Social Security numbers and other personal data of 26.5 million veterans and active-duty military personnel were exposed when a laptop PC and external hard disk were stolen May 3 from the home of a VA data analyst. Both pieces of hardware were recovered last month by the FBI, which has said that the data appears to have been untouched.

Nonetheless, the VA is still-taking heat from members of Congress who want the agency to go forward with a sweeping restructuring of its IT operations. The inspector general's 78-page report bolsters the calls for internal changes, listing lapses up and down the chain of command at the VA.

For instance, the data analyst whose house was burglarized was authorized to access VA databases, according to the report. But much of the information he had stored on the hard drive was being used for a self-initiated project he had been doing on his own time since 2003 without the knowledge of his supervisors, the report says.

The inspector general's investigation also found the department's response to the hardware theft to be deeply flawed.

Early on, few attempts were made to understand the magnitude and significance of the stolen data, the report claims. The initial incident report from the information security office within the VA's Office of Policy, Planning and Preparedness had "significant errors and omissions," it says.

But, the report continues, higher-level security officers made no attempts to get clarifications from the data analyst. "At nearly every step, VA information security officials . . . reacted with indifference and little sense of urgency," it says.

The VA also lacked policies for safeguarding sensitive information and had poor supervisory oversight of how data was being accessed and used by employees and outside contractors, the report claims.

"Don't be surprised if, in a dysfunctional organization, the security group is also dysfunctional," said Gartner Inc. analyst John Pescatore. The agency's security officers aren't blame-free, Pescatore said. But, he added, bad things can happen "if you are in that job and you don't have the authority you are supposed to have to enforce anything."

SPLIT PERSONALITY

The VA is great at application development but lousy at operational security, says Frank Hayes. Page 50

Ohio University CIO Resigns Following Security Breaches

BY JAIKUMAR VIJAYAN

The fallout from a recent string of security breaches at Ohio University continued last week with the resignation of William Sams, its CIO and assistant provost.

SAMS says the university's IT group needs "a new energy level and skill set."

A replacement has yet to be named, and Sams will continue in his position until one has been found, said a statement posted on the Athens-based university's Web site. Two top IT supervisors — the university's director of communication network services, and its manager of Internet and systems — have already been suspended and face possible termination over the incidents.

"The IT organization at Ohio University is positioned for a major transition into a 21st century leadership position," Sams was quoted as saying in the statement. "However, it has become clear to me that a new energy level and skill set is going to be required in order to allow our IT organization to realize its potential."

Sams was not asked to resign — it was a decision that he made independently, according to an OU spokesman.

Not a Surprise

The development shouldn't come as a surprise to anyone, given the scope of the breaches, said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa.

But "whether or not the CIO was really at fault in any of this is anybody's guess," Lindstrom said. "Only the insiders will know if he could have done more and didn't, or whether there was a more persistent problem to begin with."

Sams' resignation comes amid an IT reorganization following the recommendation of an external consulting firm. The firm was brought in to audit the university's security after several breaches were discovered between late April and early June.

The first breach was uncovered on April 21, when the FBI informed the university that it had in its possession disk drives containing patent and intellectual property data from a server at the university's Innovation Center.

Less than a week later, university IT officials disclosed that someone had broken into a server supporting alumni relations; the breach had remained undiscovered for over a year. That incident resulted in the exposure of personal data belonging to 137,000 people.

In early May, the university said that a system belonging to its Hudson Health Center had been broken into, potentially exposing Social Security numbers, dates of birth, patient IDs and clinical information on nearly 60,000 current and past students and faculty.

Naperville, Ill.-based Moran Technology Consulting LLC was then hired to conduct a complete audit of OU's Computer Services Center. Its review resulted in the discovery of two more holes in early June. Moran's report also identified a siloed culture and a quasi-combative relationship between the university's network and computer services groups as reasons for a relative lack of good security practices.

Based on recommendations from the audit, OU has begun restructuring its central IT group. As part of the effort, the school is assigning formal roles, responsibilities and accountabilities for those working in its central IT organization. About 90% of the staffers working in that group are expected to be affected by the ongoing restructuring.

The university also plans to deploy real-time and scheduled measures on every Windows-based server in an effort to protect them against viruses.

Repeated attempts to reach Sams for comment last week were unsuccessful.

BRIEFS

Law Firm Sues IBM Over Server Attack

A Washington-based law firm has sued IBM, claiming that the vendor is responsible for a November 2005 attack on its e-mail server. Butera & Andrews said an analysis of computer logs showed "over 42,000" attempts by IBM-controlled machines to attack its systems. The firm is seeking to force IBM to pay damages and reimburse the $61,000 it spent investigating the matter. IBM has asked that the suit be dismissed, saying there are "no facts" showing that any of its employees were involved in the attacks.

Identity Thieves Turning to VoIP

Identity thieves have started using voice-over-IP telephone numbers to trick Internet users into giving up personal information, according to security vendor Secure Computing Corp. The company has observed only two such scams so far but expects the practice to "explode," said Paul Henry, its vice president of strategic accounts.

Google Joins ODF Lobbying Group

Google Inc. has joined a U.S.-based lobbying group supporting the use of the OpenDocument file format. The search engine company declined to comment on the move, which was confirmed by Marino Marcich, managing director of the Washington-based ODF Alliance. Marcich described Google as a natural fit because its Writely word processing program supports ODF.

CA Buys Replication Software Maker

CA Inc. has acquired XOsoft Inc., a vendor of data replication and recovery software. Terms of the deal weren't disclosed. CA said the acquisition will allow it to offer customers a multilayered approach to backup and recovery of IT systems, including traditional backup, off-site vaulting and disaster recovery.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Shelfware Put in Cross Hairs . . .

. . . by vendor's new subscription scheme. Imagine not having to worry about buying software that you'll never use or getting too many licenses for a particular product. Nice dream, huh? Well, starting Sept. 1, Bentley Systems Inc. in Exton, Pa., will make its Select Subscription Program available to users of its design tools and applications for markets such as construction, transportation and civil engineering. According to Joe Croser, Bentley's global marketing director, if you opt for Select, you can exchange the software licenses for a product that you don't need for one that you do once each year. Bentley, a privately held company that had revenue of $336 million last year, has more than 150 products to choose from. Croser says that if you're running "a 10-year-old app that may no longer do the job as well as a new one," you can trade it in. What's more, you get credit for the *current* price of the product you're exchanging to apply against the cost of the new software. If your old tool happens to be worth more than the one you want, you get more licenses for the new one, Croser says. Conversely, if you want something pricier than what you have now, you pay the difference. Select requires a two-year commitment and costs 15% of your software's price annually; you also get maintenance and updates, plus tutorials and other goodies. The big question: Will more software vendors follow Bentley down this path? "I do think other organizations will catch up," Croser predicts. Let's hope so.

Exchange your old software for new apps, says CROSER.

Options for remote control abound . . .

. . . for network managers. With the number of mobile and work-from-home employees growing quickly, remote access control vendors have been rapidly releasing an array of product choices for you to consider. Paul Roscoe, president of the vBusiness unit at Sentillion Inc. in Andover, Mass., argues that you need to make the end-user experience for remote workers "the same as they have in the office." Roscoe says his unit's first offering, called vThere, does just that. The software provides a virtual image of an end user's application portfolio that can be loaded onto a corporate laptop or a home PC. Your end users won't have to fiddle with VPN access; vThere authenticates them as if they were logging onto a LAN and then handles all the VPN rigamarole. And sysadmins can manage remote systems with the same tools they use on LAN-based machines, Roscoe says. Warning: Don't try this with workers using dial-up connections. Devices are provisioned over the Internet, and each vThere image runs between 2GB and 4GB in size. That's a lot of bytes, Roscoe admits, but he says it's a one-time event — all updates are incremental. The technology only works with Windows now, but Sentillion will add Mac and Linux support early next year, Roscoe says. The company charges a one-time license fee of $9,500 for vThere, plus $125 per user.

41M People in U.S. working from home once a week or more by 2008, estimates Gartner.

Aventail's EX appliances "watermark" end-user devices.

Across the country, Seattle-based Aventail Corp. this week is releasing an ST2 software update for its EX series of remote-access appliances. Chris Witeck, director of product marketing at Aventail, says the new release adds device "watermarking" capabilities so it can immediately identify managed devices, and it's able to permit remote machines to connect during off-hours for batch-processing applications. It supports Windows Mobile handhelds and provides a quarantine zone for devices that don't comply with your access policies. Pricing starts at $3,995 for the hardware/software combo.

Do you need advanced reporting tools with your access control system? Consider PatchLink Enterprise Reporting from PatchLink Corp. in Scottsdale, Ariz. Don Griffen, the vendor's director of strategy and solutions, says the add-on to its PatchLink Update software provides detailed security metrics. For example, it shows how many of your remote users are compliant with IT patch-level requirements. It also lets you know who has changed configurations, added software or altered their hardware — information PatchLink can use to quarantine nonconforming devices. The reporting add-on costs $1,995 plus an annual fee of $2.50 per end user and will be ready in late August, Griffen says.

AJAX spreadsheet add-on can boost . . .

. . . the features in Web apps. Andre Charland, CEO of eBusiness Applications Ltd. in North Vancouver, British Columbia, says that although Asynchronous JavaScript and XML tools have been around for a while, corporate developers are now exploiting AJAX to add interactive features to Web-based apps. If you're engaged in such an effort, Charland suggests that you consider his company's prebuilt AJAX spreadsheet component, which fits right in with .Net or J2EE Web apps. The tool can run calculations either on a local system or a server. It costs $399 per developer and is due to ship in early September.

CHARLAND: Give your Web apps a spreadsheet.

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- **Learning Paths for Security:** Take advantage of in-depth online training tools and security expert webcasts organized around your specific needs. Then test your security solutions in virtual labs, all available on TechNet.

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Microsoft

IT Keeps an Eye on Business Intelligence

Companies turn to performance, usage monitoring as access to BI data widens

BY HEATHER HAVENSTEIN

AS COMPANIES expand access to business intelligence tools to more users, IT shops increasingly are looking to do the kind of performance and usage monitoring usually confined to transactional systems.

When BI software was commonly used to do historical reporting for a handful of power users, the dependability of servers or the content of reports wasn't as critical as it has become now, according to IT managers and analysts.

For example, the city of Albuquerque by the end of this month plans to go into production with the Cognos 8 BI suite, which will let external users access reports on restaurant inspections and building permits, said Chris Framel, applications group manager in the city's information systems division. Internal users will begin using the BI tools in September, he added. Within the suite, Framel plans to use Cognos Event Studio, an event-notification tool, to alert IT staffers if exceptions occur, such as users not receiving reports.

"Now, we come in the next morning to check and see if programs have failed," Framel said. "It is really all reactive rather than proactive."

Framel would like software vendor Cognos Inc. to develop an auditing database that he could use to monitor if and how reports are being used, he added.

"We do need to do that, because we have several hundred reports," he said. "It would be nice to know what reports they are using, and if they are not, then we could get them out."

Morgan Stanley DW Inc. uses Business Objects SA's Auditor tool to cancel "runaway queries" that last for more than 10 minutes and to identify reports that are not being commonly accessed by its 9,000 users so they can be eliminated, said Michael Strachan, vice president of business intelligence metrics at the New York-based investment bank. Now the bank has begun testing a new query performance and data-usage tool from Appfluent Technology Inc. to help boost the performance and reduce the costs of its BI applications.

Because the bank allows some users to do self-service, ad hoc analysis, it's testing the tool as a way to allow database administrators to see queries that are running and identify bottlenecks, Strachan said. The bank hopes to have the tool in production within two months.

Exposing Data

Quixtar Inc., an online health and beauty products retailer in Ada, Mich., plans to automate the monitoring of the BI reports it sends to the 200,000 to 250,000 business owners it works with, said Dennis Albachten, the company's senior BI analyst.

Quixtar, which uses Actuate Corp.'s enterprise reporting tool, now performs manual, periodic polls of users to assess which reports are being used and how often they are being accessed, Albachten said.

"We want to automate the data collection process for viewing and loading into the warehouse so we can report off it," he said. "We do have a gut feel, but it would be nice to be able to expose that data."

Eric Rogge, president of Eric Rogge Consulting in Foster City, Calif., said that as BI projects expand from departmental applications out to the enterprise level, they start to require the same degree of attention to scalability and performance as transactional systems.

It is important to ensure that "one user of one report isn't eliminating or restricting access to other users," Rogge said.

Grant Felsing, decision support manager at lawn mower engine maker Briggs & Stratton Corp., said that his company's move to embed BI data into workers' daily processes means that "BI is so integral for [users] knowing what to do every morning that if it goes down, five minutes later the help desk is getting hit."

Briggs & Stratton, which uses SAS Institute Inc.'s SAS 9 tool set, wrote software that it has been using for 18 months to monitor BI usage and the health of its BI platform. Every five minutes, the company runs a test to measure response times to ensure performance, Felsing said.

"This also gives us a picture of usage around the world, so with a single glance, I can review how Asia and Europe went first, then our Eastern facilities and finally our Midwest users as the clock marches on," he said. "The more people become dependent on it, the more stable it has to be." ▸

AT A GLANCE

BI Growth

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- The BI market is expected to grow from $2.5 billion in 2006 to $3 billion in 2009.

SOURCE: GARTNER INC.

IBM Pushes for More i5 Workers

BY PATRICK THIBODEAU

IBM wants to expand the labor force available for its System i5 hardware line and increase the number of schools offering classes on the midrange technology, while ensuring that the training is rigorous.

In terms of the number of workers available to work with the i5, "obviously we need a lot more than we have," said Linda Grigoleit, IBM's System i5 education program director.

Although IBM has set a target to train 20,000 mainframe workers by 2010, it is not setting a similar goal for the System i5. Instead, Grigoleit said, "we want to be able to point to specific universities that are working with specific customers and partners that have specific jobs."

There is no one-size-fits-all skill set for the System i5, formerly known as the iSeries and before that, the AS/400. If employers wanted only workers with experience on the system's RPG programming language, they wouldn't have any trouble filling positions, said Nate Viall, a Des Moines-based recruiter who specializes in finding candidates for IBM i5 application development jobs. But, he said, companies want more than just RPG skills.

For example, The Fashion Institute of Design & Merchandising Inc. in Los Angeles has two openings calling for System i5 knowledge along with Java programming and WebSphere experience, said CIO Roxanne Reynolds-Lair.

For Reynolds-Lair, an ideal candidate can work with the Web applications but also knows how to develop software in a way that can take advantage of system-specific capabilities of the i5, such as the version of DB2 that's integrated with its operating system

"It's just tough to find good, strong Java programmers, whether they know System i5 or not," said Reynolds-Lair.

Jeff Carey, System i5 administrator in the IT outsourcing division of Acxiom Corp. in Downers Grove, Ill., said more systems administrators will be needed, particularly as IBM works to get more independent software vendors to port applications to the i5.

If there is "going to be any value proposition to the platform, it's going to be what's different about the platform, what differentiates it," Carey said. "And if there are fewer and fewer people around who are really conversant with that, I think it's going to be trouble for the platform as a whole."

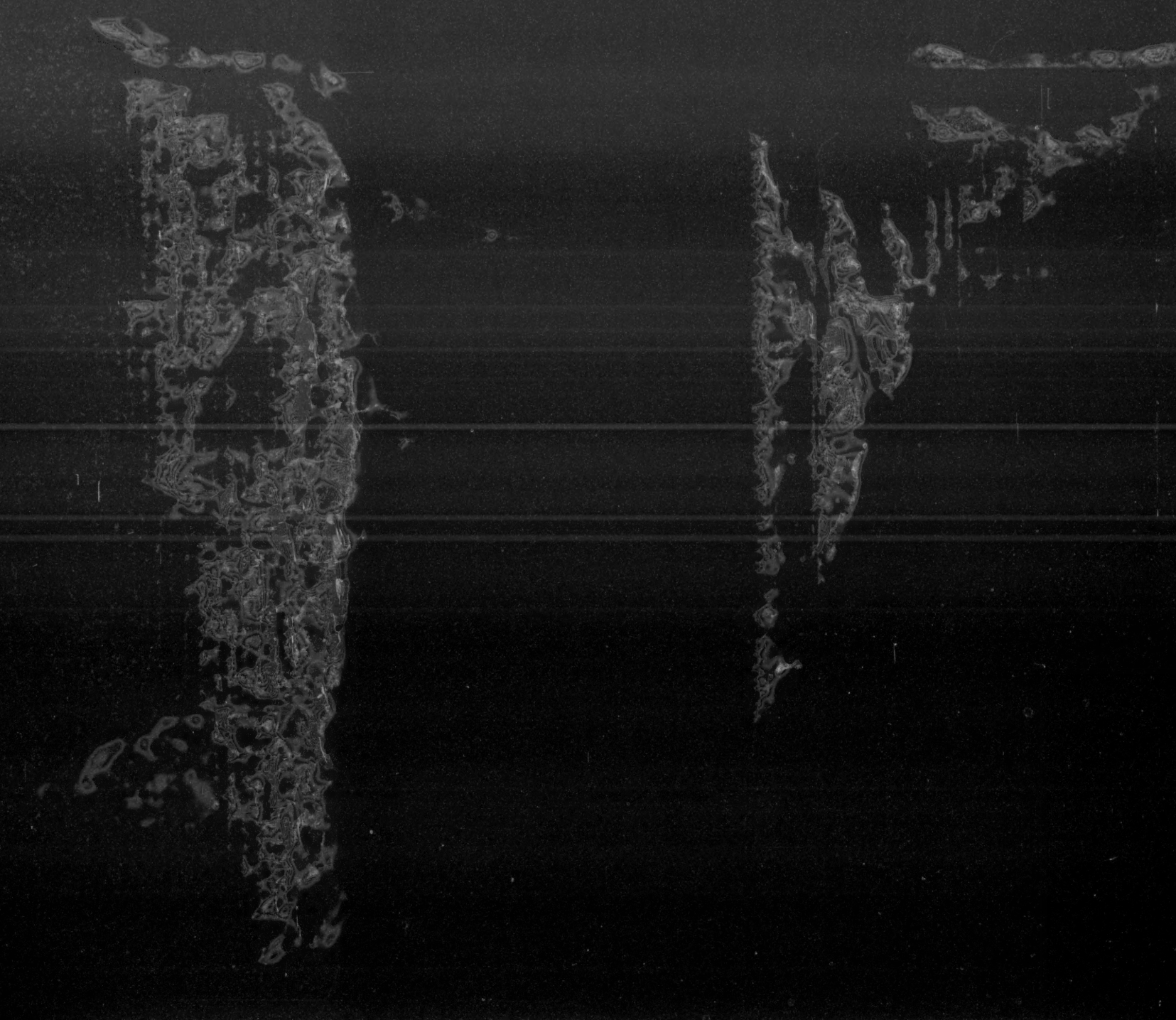
Weaned on Windows

Younger IT professionals, not to mention midlevel to senior managers, "have all grown up on Windows, and that is all they know," said Alan Caswell, a System i5 consultant in Seattle and immediate past president of the local user group. He said i5 users would like to see IBM do more to promote the line's value.

Grigoleit said there are now about 250 community colleges and universities worldwide that offer System i5 training.

As part of its effort to expand the training, earlier this year IBM announced a collaborative program with the University of Nebraska-Lincoln to create a worldwide hub for iSeries training.

Keng Siau, a professor of management in the school's information systems department, said the university decided to get involved with the i5 because it believes it will lead to jobs for its students. Although their program is new, Siau said he is getting queries from businesses for students. "Demand is high," he said. ▸



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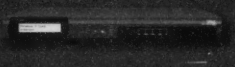

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BRIEFS

Nortel Wins $20M Rolls-Royce Pact

Nortel Networks Corp. has won a seven-year, $20 million contract to provide voice-over-IP services for more than 26,000 users at Rolls-Royce PLC. London-based Rolls-Royce, a maker of power systems for the aerospace, marine and energy markets, has been using Electronic Data Systems Corp. to manage its voice networks. The VoIP system will provide voice calling services, unified voice/fax/e-mail messaging and a platform for introducing advanced services.

BSA Pays $15,500 For Piracy Leads

The Business Software Alliance has paid its first rewards to individuals for reporting software piracy incidents occurring at their former employers. The vendor-sponsored organization said that three people have received a combined total of $15,500 under its BSA Rewards Program after their confidential piracy reports led to investigations and eventual settlements.

Oracle Sells Siebel Consulting Unit

Oracle Corp. has sold OnTarget, a sales consultancy it gained with its purchase of Siebel Systems Inc., to Select Selling for an undisclosed sum. The combined firm, called The TAS Group Inc., plans to extend its Select Selling Dealmaker software to support the OnTarget sales methodologies. Oracle had put the OnTarget business on the block five months ago.

SAP Buys Praxis, Adds Web-based Tools

SAP AG has acquired Praxis Software Solutions Inc. and is using the company's technology to add e-commerce and Web-based CRM functionality to its Business One applications for small and midsize customers. SAP did not disclose financial details of the deal but said it will retain all 12 employees of Minneapolis-based Praxis.

EMC to Add Encryption Tools to Its Disk Arrays

BY SHARON FISHER AND ROBERT L. SCHEIER

EMC CORP. eventually plans to incorporate data encryption technology in its disk arrays, using software that the storage vendor expects to obtain through its $2.1 billion acquisition of RSA Security Inc.

The addition of encryption technology would let users encrypt an entire database or multiple data volumes via their regular storage management tools without having to deploy new software or a separate appliance, according to Rob Sadowski, senior product marketing manager for information security at EMC.

In addition, customers could use the processing power of disk array controllers to speed up encryption and decryption procedures, reducing the loads on their servers and networks, Sadowski said last week.

Several EMC users expressed interest in the promised melding of storage and security capabilities.

Kelly Carpenter, senior technical manager at Washington University's Genome Sequencing Center in St. Louis, said building encryption functionality into disk arrays would make it easier to encrypt data at the file system level — something he has just started having to do.

Previously, the center's human DNA cataloging project didn't attach any patient identifiers to data, Carpenter said. But the center is starting to do medical sequencing of individual patients, meaning it now needs to comply with the Health Insurance Portability and Accountability Act's privacy regulations, he said.

Kenneth Kucera, CIO at First National Bank of Omaha, said he would be interested in having encryption technology available on either EMC's Clariion midrange arrays or its Symmetrix high-end systems.

Even some users who don't think they would take advantage of the encryption capabilities said they think the concept is a good idea.

Dan Wells, vice president of operations at USA.Net Inc., said the Colorado Springs-based provider of e-mail outsourcing services probably wouldn't be interested in encrypting data on disk arrays. But he added that the functionality could be valuable to large companies that "can pay for those whiz-bang services."

Unknown Time Frame

EMC, which announced the RSA acquisition last month and expects to complete the deal in the fall, wouldn't disclose a scheduled time frame or product road map for making the encryption capabilities available in its arrays.

The company plans to include Bedford, Mass.-based RSA's technology in products where appropriate and as customers demand it, according to Sadowski.

He added that the company is researching the best way to implement encryption. For example, it wants to be sure that adding encryption support doesn't slow down the performance of its arrays.

EMC also plans to incorporate RSA's public-key infrastructure management capabilities into arrays, Sadowski said. The arrays then could be used to back up PKI management information, authenticate internal and external users, and provide the appropriate keys to them, he said.

Eric Ogren, an analyst at Enterprise Strategy Group Inc. in Milford, Mass., said putting security capabilities in storage arrays makes "perfect sense."

But IDC analyst John McArthur encouraged EMC to also continue to offer RSA's technology on a stand-alone basis for users who want to take a hardware-independent approach to encryption.

During a conference call on EMC's second-quarter results Friday, CEO Joe Tucci said RSA will still sell its products independently in addition to looking for synergies with EMC. ▸

Scheier is a freelance writer in Boylston, Mass. Contact him at rscheier@charter.net.

Advanced DBs Aren't Always the Answer, New Ingres Exec Says

BY ERIC LAI

Open-source database vendor Ingres Corp. last week tapped **Roger Burkhardt,** *formerly chief technology officer at the New York Stock Exchange, to be its president and chief operating officer. Burkhardt, 45, managed a team of 2,000 IT workers at the NYSE, which he joined six years ago after working on the vendor side at IBM and what is now OptiMark Inc.*

NYSE Group Inc., which also includes the former Archipelago Holdings Inc. e-trading exchange, said Archipelago CTO Steve Rubinow will now manage all of its IT operations.

Redwood City, Calif.-based Ingres said Burkhardt is likely to take over its CEO job from current top executive Terry Garnett within a year if the company meets its business targets. Burkhardt spoke with Computerworld *after his hiring was announced.*

Why did you join Ingres? I was actually contemplating another CIO role at a large enterprise looking to make a big technology change. This opportunity came out of the blue. It took a lot to pull me off that course. But I found what Ingres is doing very exciting.

What is your background in open-source technology? At the NYSE, we had some extreme needs in terms of performance and availability. We often needed to have something special done. In the closed-source world, the biggest obstacles [to doing that] were the lawyers. What we could freely do with open-source products was very compelling.

Most analysts think that Ingres is ahead of other open-source databases like MySQL on functionality but lags behind Oracle, DB2, Sybase and even SQL Server. It's fair to say that we don't have bleeding-edge features. But it's also true that there is a very large set of users who are paying through the nose for support from Oracle on products that are 10 to 12 years old.

New applications generally don't demand bleeding-edge functionality. A lot of times, people would rather run a standard ODBC interface and put all of the stored procedures in the application server [instead of the database].

But why would a CIO who is seeking to reduce IT complexity consider adding another database, such as Ingres, to the mix? Because of our massive cost advantage. An Ingres solution is half to a third of the [prices charged by the] RDBMS oligopoly. Also, enterprise customers are uncomfortable with the level of power that some vendors have over their environments.

Finally, I think there is much less concern, especially on the database side, about heterogeneity. The tools have improved, and things are self-managing. All enterprises of a significant size have to deal with this issue anyway. ▸

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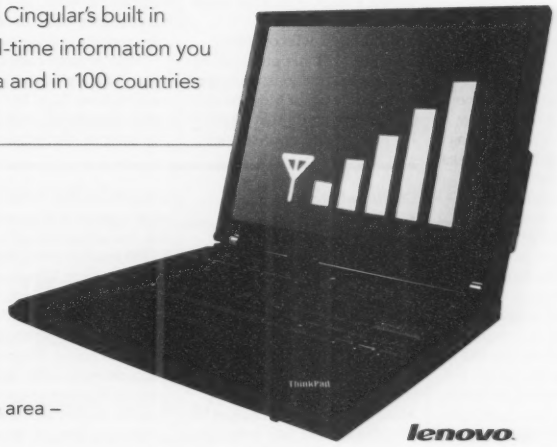

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Continued from page 1

VoIP

City, Mo. Saint Luke's, which started deploying more than 750 VoIP phones three years ago, relies on AT&T Inc. for maintenance and support at an annual cost of about $75,000, according to Wade.

Six other IT managers interviewed last week largely agreed with Wade that VoIP systems often bring added complexity, stemming from end-user demands for expanded functionality and the need to maintain quality-of-service guarantees on voice transmissions.

Expert Help Needed

"Day 2 support is much more critical than in the past," when companies relied on traditional circuit-switched voice systems, said Chris Stockley, CIO at Skanska USA Building Inc. in Charlotte, N.C. Skanska has installed about 2,200 IP phones from Cisco Systems Inc. at 30 U.S. offices over the past year. Within the next 18 months, it plans to add thousands more at the construction job sites it manages.

For maintenance and support of its VoIP system, Skanska relies on combined services offered by Cisco's Remote Operations Services unit and Alliant Technologies LLC. Stockley said the services cost between $10,000 and $15,000 per month — an expense that he thinks is well worth it.

Skanska officials felt that the company couldn't provide VoIP support expertise in-house because of the scale and complexity of its system, which eventually will be expanded globally, Stockley said. "The Day 2 folks are experts, like surgeons, for an operation of this size and scope," he added.

In some ways, VoIP technology is easier to manage than traditional phone systems, according to Stockley and other users. For example, moving IP phones to different locations and assigning them to new employees are relatively simple tasks. However, many VoIP setups do much more than older phone systems did, such as providing the ability to collaborate via e-mail or instant messaging and allowing transmission of video.

Stockley said that Skanska's VoIP system supports a variety of unusual applications, including one that helps users find construction experts or other specialists anywhere in the world who can be patched into conferences. Instant messaging capabilities built into the Cisco phones can be used to show who is available and whether they should be contacted by phone, e-mail or another mode of communication.

"VoIP is not a slam-dunk."

Bill Moore, who oversees in-house VoIP maintenance as telecommunications manager at the Museum of Modern Art in New York, said that providing proper quality-of-service levels for voice calls is "a very complicated thing."

MOMA has installed about 50 IP phones from Avaya Inc. and wants to add another 100, Moore said. His staff is handling the maintenance work. But, he said, "I can certainly see why companies would outsource quality-of-service work. VoIP is definitely a lot more complex than we were initially led to believe."

Zeus Kerravala, an analyst at Yankee Group Research Inc. in Boston, estimated that 80% of companies try to manage their VoIP systems themselves, although he noted that there is an emerging trend of companies seeking outside help.

"VoIP is more complex than any other application organizations have faced before, and most companies don't have the internal discipline to run a VoIP environment," he said.

Gartner Inc. analyst Eric Goodness noted that managing IP telephony systems "can be a bear," especially installations with more than 500 end users at multiple locations. And as the use of applications such as video over IP grows, the management complexity will only increase, he said.

Virgin Entertainment Group Inc., a Los Angeles-based music retailer, has installed about 500 of Cisco's IP phones at 17 stores and its headquarters. The subsidiary of Virgin Group Ltd. relies on support services from AT&T that cost "tens of thousands of dollars" annually, said Robert Fort, the retailer's director of IT.

Fort described the support expense as "a small, incremental cost" to Virgin Entertainment and said he thinks VoIP "sometimes is made out to be too complex." He noted, though, that the technology introduces "additional needs" from a management standpoint. External support was needed to provide constant monitoring of the VoIP system, Fort said.

By itself, VoIP technology "seems relatively straightforward to me," said Brad Sandt, lead network engineer at Park Hill School District in Parkville, Mo. "It's the human aspect that makes it complex, not the technology," he added, referring to the demands of users for added functionality.

Sandt last week was helping to finish a $600,000 installation of about 1,100 IP phones at 18 sites within the school district. Park Hill is dropping the Day 2 maintenance contract it had for its circuit-switched system, Sandt said. He added that the service provider charged $110 to move a phone, something he and other staffers can do quickly and easily with VoIP.

Continued from page 1

Microsoft

Inc., a Commerce, Calif.-based grocer. "If you don't mind equating the two, it's OK."

"There's a lot of clutter," echoed Tony Mason, IT operations manager at Retirement Systems of Alabama in Montgomery. Mason hailed SA benefits such as free training vouchers for his staff. But with "Microsoft trying to throw something out for everyone, it's hard to weed through what might work for you," he said.

The five-year-old program initially focused on providing guaranteed software upgrades to companies willing to pay 29% of their license fees annually on desktop products and 25% on server products. But as Microsoft began to miss deadlines for releasing upgrades to software such as SQL Server, Office and Windows, it began to add other benefits to SA.

That pace has quickened in the past year. Last November, the vendor rolled out its Microsoft Product Licensing Advisor (MPLA), which it touted as an online service to help customers weigh their buying options. In March, Microsoft added another 18 benefits to SA, including exclusive access to the enterprise version of the upcoming Windows Vista, home-use rights for licensed software, and round-the-clock telephone and Web support.

In this round, Microsoft is promoting benefits such as access to Windows Fundamentals for Legacy PCs, a stripped-down operating system aimed at users who want to bring the security features of Windows XP SP 2 to their older Pentium PCs (see chart).

"It seems like Microsoft's strategy is to pile on benefits until people say, 'OK, we give up,' " said an IT manager at a California-based technology services provider who requested anonymity. "I mean, what's next — a fruit-of-the-month club?"

The user, who has no plans to discontinue his SA agreement, said he doubts Microsoft will be able to get back on track and release major software upgrades every three years. Thus, the IT manager said, he would prefer that the company either boost Software Assurance with something he could really use — such as full-fledged technical support — or let customers buy a less-pricey version without "all the bells and whistles."

Paul DeGroot, an analyst at Kirkland, Wash.-based Directions on Microsoft, said that a number of corporations whose SA contracts are expiring this year told him that they plan to buy a one-year extension to their plans — which Microsoft allows customers to do once — to get access to Windows Vista and Office 2007. After that, said DeGroot, those users plan to take a hard look at whether they should renew SA for another three years.

Others plan to renew their SA contracts for another full term, despite their complaints.

Mason said Retirement Systems of Alabama's second SA agreement expires this month. The pension plan administrator intends to sign up for a third round, he added.

"We don't just buy SA for the upgrades," Mason said. "Our accountants like it because our billing is more levelized. We don't have to worry about keeping track of our licenses or any huge, unexpected expenses."

Duge said SA has only added to the work of his IT staff. "For the amount of resources I need to commit to do a 'proper job,' I need to see a demonstrable return to justify the additional workload," he said.

Duge also thinks he is paying Microsoft more than he did before he signed up for SA. But he still plans to renew his contract when it expires because SA's budgeting convenience outweighs its negatives. "It's painful," he said. "I don't like it. But I'm gonna pay it."

AT A GLANCE

Sprucing Up SA

The latest benefits added to Software Assurance:

- **Ability to install up to four copies of Windows Vista Enterprise per PC** using now-free Virtual PC 2004 SP1
- **Access to Windows Fundamentals for Legacy PCs,** a stripped-down version of Windows XP SP2
- **Relaunched Forrester Software Assurance** ROI tool
- **Revamped Microsoft Product Licensing Advisor,** including live assistance from Microsoft representatives

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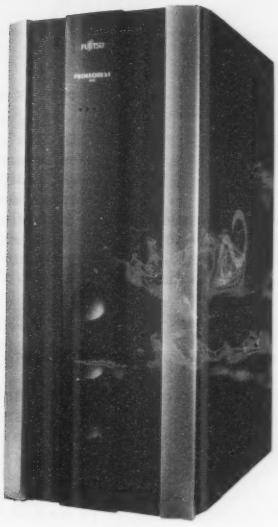

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intel Itanium 2 inside

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GLOBAL DISPATCHES An International IT News Digest

Microsoft Hit With New Fines in Europe

BRUSSELS

THE EUROPEAN Commission last week fined Microsoft Corp. €280.5 million ($356 million U.S.) dating back to last December for failing to comply with the terms of a March 2004 antitrust judgment against the company.

Microsoft has already paid €497 million ($631 million) in fines as a result of the ruling itself, in which the EC found that the software vendor had used its near monopoly in the desktop operating systems market to gain advantages over competing IT vendors.

The EC proposed the additional fines for noncompliance two weeks ago, and antitrust regulators from the European Union's 25 member states unanimously approved the plan. The new fines amount to €1.5 million ($1.9 million) per day from Dec. 16 through June 20.

In addition, the EC threatened to increase the daily fines to €3 million ($3.8 million) if Microsoft doesn't comply with the antitrust ruling by July 31. To do so, the company needs to finish releasing to rival vendors technical details about the communications protocols used by its workgroup server products.

Brad Smith, Microsoft's general counsel, said the company will appeal the fines in the European courts on the grounds that it has worked hard to deliver the requested technical documents. He reiterated Microsoft's contention that the EC's original instructions lacked clarity — a claim that European officials dispute.

■ PAUL MELLER, PETER SAYER AND JEREMY KIRK, IDG NEWS SERVICE

GLOBAL FACT

$1.1B

Total revenue from sales of Ethernet switches in Japan last year. Cisco Systems Inc. generated 62% of the revenue, although it accounted for just 22% of unit shipments.

SOURCE: GARTNER INC.

Intel Could Face Probe By German Regulators

BONN

GERMANY'S FEDERAL cartel office has received a complaint about Intel Corp.'s business practices from an unidentified competitor, putting the chip maker at risk of facing another governmental investigation.

A spokeswoman for the Bonn-based competition authority confirmed that the complaint was submitted earlier this month. She said the cartel office expects to decide this week whether it will launch a probe of Intel or forward the complaint to the European Commission.

Mathias Raeck, an Intel spokesman in Germany, denied any wrongdoing on the company's part. "We believe that we have a lawful business conduct," Raeck said.

The EC is already investigating Intel in response to a complaint filed by rival Advanced Micro Devices Inc.; in June 2005, the EC raided Intel's offices in Munich and in Swindon, England. The fair trade commissions in Japan and South Korea have also investigated Intel's business practices.

Meanwhile, AMD has filed antitrust lawsuits in both the U.S. and Japan accusing Intel of coercing computer makers and distributors into signing deals to exclusively use its chips.

AMD wouldn't say last week whether it had filed the complaint against Intel in Germany. But a Paris-based spokeswoman for AMD said company officials "have spoken with the federal cartel office in Germany, and we will support its investigation" if one takes place.

■ NANCY GOHRING, IDG NEWS SERVICE

Japan Eyes Tech Sales After Missile Tests

TOKYO

JAPANESE COMPANIES are likely to face greater scrutiny on some international sales of IT equipment, following North Korea's launch of seven missiles into the Sea of Japan on July 5.

Japan's Ministry of Economy, Trade and Industry is now working to check suspicious trading between Japanese companies and businesses with suspected links to North Korea, said a Japanese government spokesman, who asked not to be identified.

Sales of both electronic and mechanical high-tech equipment to North Korea are regulated, but evidence has surfaced suggesting that much of the technology North Korea relies on for its military program comes from Japan.

This month's missile launches also prompted the Japanese government to ban visits to the country by a North Korean boat called the *Mangyongbong-92*. The ship is suspected of carrying components that can be used to build missiles from Japan to North Korea, a spokesman for Japan's Ministry of Foreign Affairs said at a press conference.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

U.K. Approves Order to Extradite Hacker to U.S.

LONDON

U.K. HOME Secretary John Reid this month approved an extradition request that would send a computer hacker to the U.S. to be tried for allegedly disrupting military and government systems in 2001 and 2002.

Gary McKinnon, a 40-year-old London resident, admits that he accessed the systems but claims he was researching UFOs and caused no damage. He has been fighting extradition on the grounds that the U.S. government could classify him as an enemy combatant, although the U.S. has said it plans to try him as a conventional defendant in a Virginia federal court.

McKinnon must appeal the extradition order by tomorrow. The charges against him include an allegation that he deleted system files and logs from computers at a U.S. Navy base in New Jersey, requiring about 300 systems to be shut down "at a critical time" immediately after the Sept. 11, 2001, terrorist attacks, according to court documents.

■ JEREMY KIRK, IDG NEWS SERVICE

Academic Scandals Prompt New Measures

BEIJING

CHINA'S MINISTRY of Science and Technology will form an independent watchdog organization to oversee funding for scientific research in the country, the state-run Xinhua news agency and *China Daily* newspaper reported last week.

The move follows high-profile academic scandals earlier this year, including the dismissal in May of the dean of Shanghai Jiaotong University's school of microelectronics after it was discovered that he passed off rebranded chips from Freescale Semiconductor Inc. as his own designs. The ministry will also build an interagency database to store detailed information on all applications for research funding, Xinhua reported on its Web site.

■ STEVEN SCHWANKERT, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Accenture Ltd. last week said that it has opened a lab in Bangalore, India, that will do research and development work related to systems integration and software engineering. The lab will employ about 100 researchers, adding to Accenture's current total of 17,500 workers in India. A timetable for hiring the new employees wasn't disclosed.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Microsoft in September plans to give attendees at the annual Hack In The Box security conference in Kuala Lumpur, Malaysia, an inside look at new security features in its Windows Vista operating system. Microsoft plans similar presentations at the Black Hat USA 2006 conference next month in Las Vegas, saying it wants to get feedback from security researchers to help make Windows Vista more secure.

■ DAN NYSTEDT, IDG NEWS SERVICE

Philippine Long Distance Telephone Co. said it plans to expand a converged network covering the Visayas and Mindanao islands, in anticipation of more companies moving operations into southern regions of the country. The network allows voice, video and data traffic to be transmitted over a single fiber-optic line, according to Philippine Long Distance Telephone.

■ LAWRENCE D. CASIRAYA, COMPUTERWORLD PHILIPPINES

McAfee Inc., in an effort to boost sales of its security software in China, has signed on two new resellers in that country. McAfee announced deals with Beijing-based search engine developer Baidu.com Inc. and Shanghai-based China United Telecommunications Corp., the country's second-largest mobile network operator.

■ SUMNER LEMON, IDG NEWS SERVICE

IBM marked its 50th year of doing business in Ireland this month by announcing plans to invest €46 million ($59 million U.S.) in the country and hire 300 additional workers over three years. IBM said it will use the funds to expand its Dublin software development operations.

■ NANCY GOHRING, IDG NEWS SERVICE

McAfee CEO Ready to Take on Microsoft

BY SUMNER LEMON

George Samenuk, *chairman and CEO of McAfee Inc., says he isn't losing any sleep over Microsoft Corp.'s impending unveiling of Windows Live OneCare, a set of software and services designed to protect computers from viruses and other malware. Samenuk said the recently released beta of Falcon, McAfee's next major software release, offers features that Microsoft and rival Symantec Corp. can't yet match. He discussed the Microsoft plan in a recent interview with the IDG News Service.*

How is McAfee responding to increased competition from Microsoft? Competition is always good for the customer in any industry. When we look at Microsoft entering the security space, it will be good for all of the competitors because it will make us better.

Do I worry about Microsoft? Yes. But I worry more about protecting customers. Having fully integrated product lines will be the differentiating factor for McAfee. Certainly, some unaware consumers may go with Microsoft. Two weeks ago, Microsoft announced 20 new vulnerabilities in one day. I'm not sure corporations and governments are going to trust Microsoft with their security when they have these new vulnerabilities announced every month.

Will Microsoft have a tough time entering the security business? You have to ask them that. Security is a very competitive marketplace. You've got to deliver high-quality products every day to protect customers.

Does McAfee have a strategy for extending corporate success to the consumer market? Our challenge is to take those corporate and government customers that are using McAfee today and get them to use McAfee for their home computers.

How has switching the company's name from Network Associates to McAfee two years ago affected the business? When McAfee first started, it was known as McAfee. Then they switched the name — stupidly — to Network Associates. Now, finally, I changed it back to McAfee. We have 90 million people that know McAfee on a global basis. We're rebuilding the brand through using the name McAfee with all of our products. That's really helped our business over the last couple of years.

Lemon is a reporter for the IDG News Service.

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DON TENNANT

About Time

YOU KNOW how sometimes something strikes you as so funny, you just can't stop laughing? No matter how hard you try to stop, nothing seems to work. Time is the only remedy.

That happened to me the other night when I was on the phone with my 76-year-old mother. She mentioned that with her 59th wedding anniversary approaching, she had bought herself a present, and she was telling me where she bought it.

DON TENNANT is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com**.

"Have you heard of Deck the Walls?" she asked.

"No, I haven't," I replied.

"Oh," she said. "Well, you know my cow that's dressed up like Judy Garland?"

It was the combination of the seriousness in her voice and the absurdity of the image that did it. To prevent an outburst, I squeezed my nose and started slapping myself.

"No," I managed to squeak, my eyes watering. I made an excuse to get off the phone, and I lost it. It was only the passage of time that finally enabled me to recover.

Time is an amazing thing. Sometimes, it's a cure. Others, it's a curse.

Nowhere is the latter more the case than in an IT job market that's undergoing change at a head-spinning pace because of globalization. That's what I took away from reading "The World Gets Smaller Still" (page 28), one of the stories in our special report on careers titled "The IT Profession: 2010."

It's one thing if you're just beginning your IT career. Cabot Corp. CIO Randy Carter says his 23-year-old daughter is working with the U.S. State Department to roll out ERP systems from Bolivia to Zambia. But what if you have 15 or 20 years under your IT career belt? How do you deal with globalization then?

I'm reminded of a letter I received in March from a reader who took issue with an editorial I wrote called "H-1Being Professional" (March 27). I argued that rather than trying to eliminate competition from H-1B visa holders, which is where our focus seems to be, we should welcome the competition as a challenge to be more innovative. "How are you staying competitive in the global workforce?" the reader asked me. "Or do you really have to worry about it?"

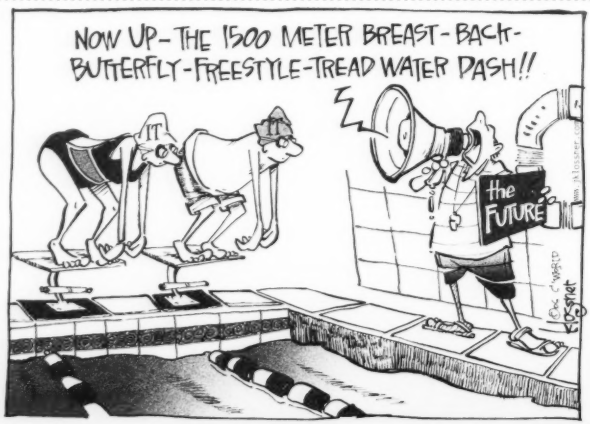
"The approach I took to stay competitive with the global workforce was to become part of it," I told him. I explained how in the late '80s, I changed careers, leaving the U.S. intelligence community, and how my family sold just about everything we owned and moved to the south coast of China. I explained that in many ways, spending three years in Macau and 10 years in Hong Kong was a sacrifice. "I can remember not having enough money to resole my shoes," I told him, "and putting newspaper in them so there would be something between my worn socks and the street."

But it was on the strength of that experience, I explained, that I was eventually asked to join *Computerworld*, thanks in large part to the strong global outlook of IDG, our parent company.

"My job as editor in chief of *Computerworld* is not in danger of being outsourced to India or being taken by an H-1B visa holder," I told the reader. "But I took what, at the time, was a very innovative approach to making myself employable in a global economy."

It's about time more IT professionals did the same thing. I will say that most of the time it requires sacrifice, so the ability to laugh is essential. And the occasional inability to stop doesn't hurt.

Don Tennant



THORNTON A. MAY

A Deeper Look at BPM

NOT SO long ago, ERP initiatives were the industry's poster child for undelivered IT value. Just about every industry gathering featured a well-attended "whine-in," where CIOs would lament the time, dollars and pain it took to get an ERP implementation up and running.

You still hear some horror stories, but for the most part, ERP initiatives are no longer the bad boys of IT value creation. Career hopes appear to be dashed more and more on the dashboards of BPM systems.

Business process management is in the headlines of the trade press, and it's the subject of conferences, focused e-newsletters and vanity-press book releases "co-authored" by vendor luminaries. More substantially, research centers attached to fine institutions such as Ohio State University are being designed to codify and distribute emerging knowledge about BPM. All this is testimony that BPM is going to be big.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

Before you sign up with Gartner/Forrester/Robert Frances Group and leap into the tea-leaf-reading exercise of choosing where and with whom to spend your BPM money, step back, take a deep breath, and think long and hard about why you are spending this money. Work the left side of the decimal point of value. Great IT leaders examine broad trends and ponder deeper meanings before jumping into pools muddied by thrashing PR wonks and headline-hungry analysts.

Talks at the IT Leadership Academy have led us to conclude that before spending a dime on BPM, you need to ask yourself four questions:

- Do we as a company want to know the truth?
- Will people tell the truth?
- Can we get the truth into the system?
- Will we behave differently when

confronted with the truth?

Here is a little-known and quite surprising tidbit: If you dissect critical business processes into their informational components, you will find that the vast majority of decisions made in business today are based on hearsay, hunch and hubris.

Yes, we live in a sensor-rich economy. Yes, we are only about 15 years away from having every molecule on this planet IP-addressable. And yet, at the beating heart of our economy, we are still guessing and making stuff up! This is why BPM is so important. It is the end of an early-wave, planetwide move to a fact-based world.

On the surface, one sees a large and growing BPM ecosystem coalescing around the money to be made by catering to the well-documented (though rarely well-executed) senior executive obsession with being in control and in the know. Many BPM vendors and gurus claim to scratch that itch.

But wait. There is a well-known saying among metrics scholars: "Fat people hate scales. Stupid people don't like tests." So the real question is, Do executives really want to know? History is filled with examples of leaders who consciously and willfully ignored the facts in front of their faces.

Anthropologically, one must examine the value a culture puts on truth and truth-gathering. In 1929, a new secretary of state, Henry Stimson, cut off funding to intelligence-gathering, stating, "Gentlemen do not read each other's mail." Students of gender analysis enjoy citing an insurance company study that revealed that British men waste 6 million hours of driving time every year out of a stubborn refusal to ask for directions.

Over the course of the next several months, the academy will examine what is really going on with BPM.

BRUCE A. STEWART

No Time for Shrinking Violets

IN THE pecking order of IT organizations, infrastructure usually comes dead last. The operational types essentially are told what to do.

An application might be an operational nightmare in the way it is packaged and delivered, and it might be easier to back up or manage some platforms than others. The folks in IT infrastructure handle it. But in most organizations, infrastructure's experience and knowledge are overlooked.

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at **bruce@bastewart.com**.

It shouldn't be a surprise, then, that most infrastructure managers keep their heads down and their noses clean. When you feel disempowered, you quickly act disempowered.

If this weren't bad enough, infrastructure is facing a huge challenge in outsourcing. (My point isn't that you shouldn't outsource. Outsourcing infrastructure — under the right contract — can make excellent business sense.)

One of the long-term goals of the consumers of IT was that IT would eventually get to be as easy to use as electricity from the power company: Just plug in and consume. All the gory details would be hidden behind one authentication; things would at last be simple. With the rise of software as a service and other initiatives in recent years, that promise is getting close.

In companies where the people in IT infrastructure are perceived as outright roadblocks to change, the outsourcing threat is imminent. But even when the relationship is less frosty, as it is in most cases, there is still no perception that a lot of value is being added by the infrastructure group. Why not just ship the whole thing out to a professional and start getting some of those "utility" benefits a little sooner?

Despite all this, in some ways times have never been more promising for infrastructure. But seizing the day will require assertive, confident and thoughtful behaviors that have mostly been driven out.

Here's an example of how taking a chance could pay off. A new CIO was taking over at one of my clients, and when he asked for some numbers, he discovered that nearly 90% of IT spending was tied up in running and maintaining what existed.

Now suppose the director of infrastructure had anticipated this and therefore had some financial analysis at his fingertips. He'd be ready to explain the financial advantages of platform consolidation and could pinpoint possible replacements and upgrades that could chip away at operating costs. He'd know which applications drive up skill costs and the contractor base and which ones cost a lot to operate because of all the program products required to keep them going. Such a "hit list" of wins — and a chart showing probable investments required to reach various levels of running costs and their payback periods — might finally allow some of the things that bedevil infrastructure to be fixed.

Another of my clients, after repeated problems with its architecture group, is now getting involved in the architectural process. Things still aren't perfect — there's a learning curve for both sides — but now some of the concerns in infrastructure are being addressed, and infrastructure has more powerful allies helping to bring home the dollars required to fix things.

Infrastructure doesn't need to be a backwater. Even if you are going to outsource it, cleaning house first is just good business; outsourcing a mess just locks in the cost structure of the mess. Outsourced infrastructure adds no zing; added value happens at contracting time. Either way, why not add value in infrastructure?

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: **www.computerworld.com/columns**

READERS' LETTERS

Yes to Site Surveys

ENSURING DELIVERY of high-capacity WLANs in demanding environments requires site surveys undertaken by professionals using professional tools ["Are WLAN Site Surveys Necessary?" *Computerworld.com*, May 31]. Hospitals are not an anomaly, as portrayed in the article. The level of performance that kind of environment expects is becoming common, especially as multimedia technology is embraced by all manner of organizations.

Frank J. Hannaford
CTO,
Forefront Technical Services,
Omaha,
forefront@cox.net

I THINK CRAIG MATHIAS has done a disservice to your readers by suggesting that they not perform a site survey. Poor placement of access points, which can be determined only with a survey, causes issues that soon sour the customer on wireless. The "solution" of throwing more APs at the poorly performing network only aggravates the problem in most cases. The usual result of this is to increase radio frequency pollution for the other businesses on the floors above or below. Then those businesses have to increase the number of APs they use – you get the picture.

When I quote a customer a price for a wireless network configuration that I warranty will meet their needs, I do not have the luxury of saying, "Let's try this, and if it does not work, you can cut me another purchase order and we will try again." My reputation and profit margin depend on doing it right the first time. I would rather have a customer come back to spend money with me because it liked my work than because I failed to meet my commitments.

Mike Powell
Chief systems engineer,
Tallahassee, Fla.

HP's IT Telework Ban Is Ill-advised

I AM CONCERNED about the IT teleworker policy enacted by Randall Mott at Hewlett-Packard ["HP Sets Limits on Telework by IT Staffers," Page One, June 12].

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Wendell M. Fields
Rocklin, Calif.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

DON TENNANT

About Time

YOU KNOW how sometimes something strikes you as so funny, you just can't stop laughing? No matter how hard you try to stop, nothing seems to work. Time is the only remedy.

That happened to me the other night when I was on the phone with my 76-year-old mother. She mentioned that with her 59th wedding anniversary approaching, she had bought herself a present, and she was telling me where she bought it.

"Have you heard of Deck the Walls?" she asked.

"No, I haven't," I replied.

"Oh," she said. "Well, you know my cow that's dressed up like Judy Garland?"

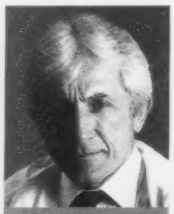
It was the combination of the seriousness in her voice and the absurdity of the image that did it. To prevent an outburst, I squeezed my nose and started slapping myself.

"No," I managed to squeak, my eyes watering. I made an excuse to get off the phone, and I lost it. It was only the passage of time that finally enabled me to recover.

Time is an amazing thing. Sometimes, it's a cure. Others, it's a curse.

Nowhere is the latter more the case than in an IT job market that's undergoing change at a head-spinning pace because of globalization. That's what I took away from reading "The World Gets Smaller Still" (page 28), one of the stories in our special report on careers titled "The IT Profession: 2010."

It's one thing if you're just beginning your IT career. Cabot Corp. CIO Randy Carter says his 23-year-old daughter is working with the U.S. State Department to roll out ERP systems from Bolivia to Zambia. But what if you have 15 or 20 years under your IT career belt? How do you deal with globalization then?



DON TENNANT is editor in chief of *Computerworld*. Contact him at don_tennant@computerworld.com.

I'm reminded of a letter I received in March from a reader who took issue with an editorial I wrote called "H-1Being Professional" (March 27). I argued that rather than trying to eliminate competition from H-1B visa holders, which is where our focus seems to be, we should welcome the competition as a challenge to be more innovative. "How are you staying competitive in the global workforce?" the reader asked me. "Or do you really have to worry about it?"

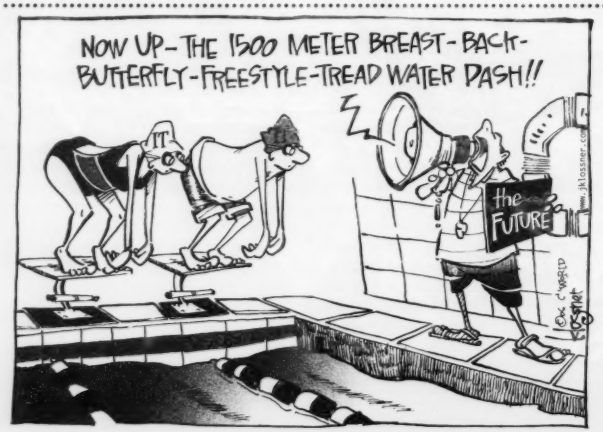
"The approach I took to stay competitive with the global workforce was to become part of it," I told him. I explained how in the late '80s, I changed careers, leaving the U.S. intelligence community, and how my family sold just about everything we owned and moved to the south coast of China. I explained that in many ways, spending three years in Macau and 10 years in Hong Kong was a sacrifice. "I can remember not having enough money to resole my shoes," I told him, "and putting newspaper in them so there would be something between my worn socks and the street."

But it was on the strength of that experience, I explained, that I was eventually asked to join *Computerworld*, thanks in large part to the strong global outlook of IDG, our parent company.

"My job as editor in chief of *Computerworld* is not in danger of being outsourced to India or being taken by an H-1B visa holder," I told the reader. "But I took what, at the time, was a very innovative approach to making myself employable in a global economy."

It's about time more IT professionals did the same thing. I will say that most of the time it requires sacrifice, so the ability to laugh is essential. And the occasional inability to stop doesn't hurt.

Don Tennant



THORNTON A. MAY

A Deeper Look at BPM

NOT SO long ago, ERP initiatives were the industry's poster child for undelivered IT value. Just about every industry gathering featured a well-attended "whine-in," where CIOs would lament the time, dollars and pain it took to get an ERP implementation up and running.

You still hear some horror stories, but for the most part, ERP initiatives are no longer the bad boys of IT value creation. Career hopes appear to be dashed more and more on the dashboards of BPM systems.

Business process management is in the headlines of the trade press, and it's the subject of conferences, focused e-newsletters and vanity-press book releases "co-authored" by vendor luminaries. More substantially, research centers attached to fine institutions such as Ohio State University are being designed to codify and distribute emerging knowledge about BPM. All this is testimony that BPM is going to be big.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at thorntonamay@aol.com.

Before you sign up with Gartner/Forrester/Robert Frances Group and leap into the tea-leaf-reading exercise of choosing where and with whom to spend your BPM money, step back, take a deep breath, and think long and hard about why you are spending this money. Work the left side of the decimal point of value. Great IT leaders examine broad trends and ponder deeper meanings before jumping into pools muddied by thrashing PR wonks and headline-hungry analysts.

Talks at the IT Leadership Academy have led us to conclude that before spending a dime on BPM, you need to ask yourself four questions:

- Do we as a company want to know the truth?
- Will people tell the truth?
- Can we get the truth into the system?
- Will we behave differently when

confronted with the truth?

Here is a little-known and quite surprising tidbit: If you dissect critical business processes into their informational components, you will find that the vast majority of decisions made in business today are based on hearsay, hunch and hubris.

Yes, we live in a sensor-rich economy. Yes, we are only about 15 years away from having every molecule on this planet IP-addressable. And yet, at the beating heart of our economy, we are still guessing and making stuff up! This is why BPM is so important. It is the end of an early-wave, planetwide move to a fact-based world.

On the surface, one sees a large and growing BPM ecosystem coalescing around the money to be made by catering to the well-documented (though rarely well-executed) senior executive obsession with being in control and in the know. Many BPM vendors and gurus claim to scratch that itch.

But wait. There is a well-known saying among metrics scholars: "Fat people hate scales. Stupid people don't like tests." So the real question is, Do executives really want to know? History is filled with examples of leaders who consciously and willfully ignored the facts in front of their faces.

Anthropologically, one must examine the value a culture puts on truth and truth-gathering. In 1929, a new secretary of state, Henry Stimson, cut off funding to intelligence-gathering, stating, "Gentlemen do not read each other's mail." Students of gender analysis enjoy citing an insurance company study that revealed that British men waste 6 million hours of driving time every year out of a stubborn refusal to ask for directions.

Over the course of the next several months, the academy will examine what is really going on with BPM.

BRUCE A. STEWART

No Time for Shrinking Violets

IN THE pecking order of IT organizations, infrastructure usually comes dead last. The operational types essentially are told what to do.

An application might be an operational nightmare in the way it is packaged and delivered, and it might be easier to back up or manage some platforms than others. The folks in IT infrastructure handle it. But in most organizations, infrastructure's experience and knowledge are overlooked.

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at **bruce@bastewart.com**.

It shouldn't be a surprise, then, that most infrastructure managers keep their heads down and their noses clean. When you feel disempowered, you quickly act disempowered.

If this weren't bad enough, infrastructure is facing a huge challenge in outsourcing. (My point isn't that you shouldn't outsource. Outsourcing infrastructure — under the right contract — can make excellent business sense.)

One of the long-term goals of the consumers of IT was that IT would eventually get to be as easy to use as electricity from the power company: Just plug in and consume. All the gory details would be hidden behind one authentication; things would at last be simple. With the rise of software as a service and other initiatives in recent years, that promise is getting close.

In companies where the people in IT infrastructure are perceived as outright roadblocks to change, the outsourcing threat is imminent. But even when the relationship is less frosty, as it is in most cases, there is still no perception that a lot of value is being added by the infrastructure group. Why not just ship the whole thing out to a professional and start getting some of those "utility" benefits a little sooner?

Despite all this, in some ways times have never been more promising for infrastructure. But seizing the day will require assertive, confident and thoughtful behaviors that have mostly been driven out.

Here's an example of how taking a chance could pay off. A new CIO was taking over at one of my clients, and when he asked for some numbers, he discovered that nearly 90% of IT spending was tied up in running and maintaining what existed.

Now suppose the director of infrastructure had anticipated this and therefore had some financial analysis at his fingertips. He'd be ready to explain the financial advantages of platform consolidation and could pinpoint possible replacements and upgrades that could chip away at operating costs. He'd know which applications drive up skill costs and the contractor base and which ones cost a lot to operate because of all the program products required to keep them going. Such a "hit list" of wins — and a chart showing probable investments required to reach various levels of running costs and their payback periods — might finally allow some of the things that bedevil infrastructure to be fixed.

Another of my clients, after repeated problems with its architecture group, is now getting involved in the architectural process. Things still aren't perfect — there's a learning curve for both sides — but now some of the concerns in infrastructure are being addressed, and infrastructure has more powerful allies helping to bring home the dollars required to fix things.

Infrastructure doesn't need to be a backwater. Even if you are going to outsource it, cleaning house first is just good business; outsourcing a mess just locks in the cost structure of the mess. Outsourced infrastructure adds no zing; added value happens at contracting time. Either way, why not add value in infrastructure?

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:
www.computerworld.com/columns

READERS' LETTERS

Yes to Site Surveys

ENSURING DELIVERY of high-capacity WLANs in demanding environments requires site surveys undertaken by professionals using professional tools ["Are WLAN Site Surveys Necessary?" *Computerworld.com*, May 31]. Hospitals are not an anomaly, as portrayed in the article. The level of performance that kind of environment expects is becoming common, especially as multimedia technology is embraced by all manner of organizations.

Frank J. Hannaford
CTO,
Forefront Technical Services,
Omaha,
forefront@cox.net

I THINK CRAIG MATHIAS has done a disservice to your readers by suggesting that they not perform a site survey. Poor placement of access points, which can be determined only with a survey, causes issues that soon sour the customer on wireless. The "solution" of throwing more APs at the poorly performing network only aggravates the problem in most cases. The usual result of this is to increase radio frequency pollution for the other businesses on the floors above or below. Then those businesses have to increase the number of APs they use – you get the picture.

When I quote a customer a price for a wireless network configuration that I warranty will meet their needs, I do not have the luxury of saying, "Let's try this, and if it does not work, you can cut me another purchase order and we will try again." My reputation and profit margin depend on doing it right the first time. I would rather have a customer come back to spend money with me because it liked my work than because I failed to meet my commitments.

Mike Powell
Chief systems engineer,
Tallahassee, Fla.

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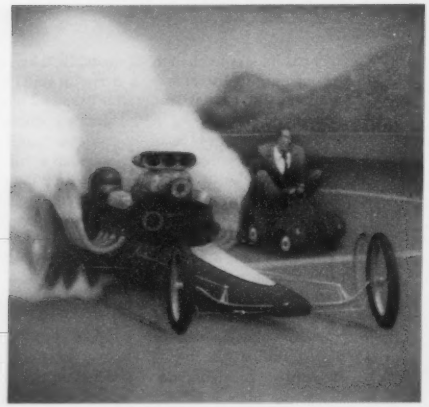
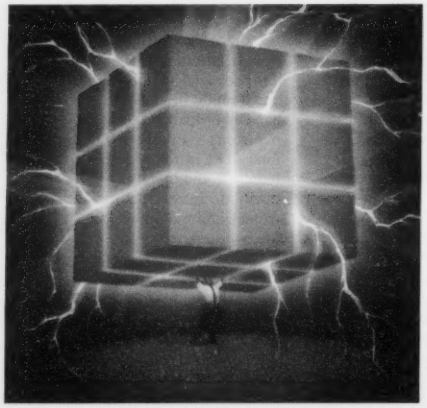
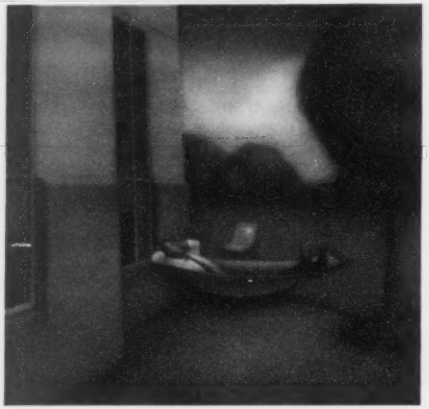
Innovations by InterSystems



Rapid development with robust objects



Lightning speed with a multidimensional engine



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SPECIAL REPORT CAREERS

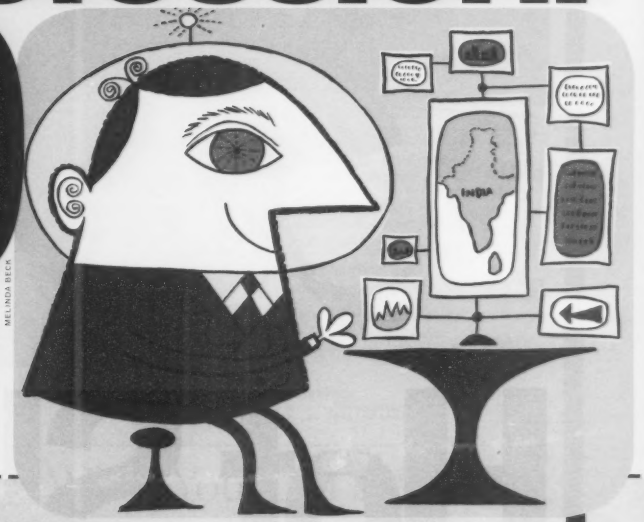
07.17.06

Hot Skills, Cold Skills
Experts say the IT department of 2010 will be populated with "versatilists" — those with technology backgrounds who also know the business sector inside and out. PAGE 22

The World Gets Smaller Still
Savvy IT workers will turn globalization and a growing demand for IT skills to their advantage. Says Randy Carter, CIO at Cabot Corp., "It's ironic to see the industry change so quickly once again." PAGE 28

OPINION
IT Sweet Spots: 2010
What do Wayne Gretzky, Gebhard Leberecht von Blucher and Ross Perot have in common? They all have something illuminating to say about predicting the future, says columnist Thornton A. May. PAGE 42

The IT Profession: 2010



MELINDA BECK

Here's a glimpse of what experts think the IT field will look like in four years — and some tips for getting prepared.

EDITOR'S NOTE

IN FOUR SHORT YEARS, the current class of college freshmen will be scouting for jobs. In four short years, a significant percentage of the working population will reach retirement age. In four short years, the makeup of the U.S. Congress and the White House will have changed. Four years can flit by in the blink of an eye, yet much is sure to happen in that time that will impact the IT field. Will you be ready?

We chose to thumb-tack this IT careers report on calendar year 2010. Experts predict major shifts in the IT profession by then: Boomer retirements will be in full swing, the next wave of college grads will be hitting the job market, and the line between IT departments and business units will be even more blurred. And then there's the expanding role of outsourcing, the ongoing H-1B visa debates in Congress, and the unabating merger and acquisition activity consolidating industries and IT staffs.

Our recent survey of 1,137 IT professionals shows a workforce worried about that future: Respondents cited outsourcing and the difficulty of keeping skills up to date as the two biggest threats to their jobs and careers. Yet they are willing to adapt to master that future: 91% said they would learn a new technical skill to help ensure prolonged employment.

Here's a certainty: IT workers will have to adapt to stay employed in 2010. Among other things, this special report aims to help you place your career bets, show you which skills will be hot and teach you how to turn globalization to your advantage.

So, will you be ready?

Ellen Fanning is special projects editor at Computerworld. *She can be reached at ellen_fanning@computerworld.com.*

Hot Skills, Cold Skills

The IT worker of 2010 won't be a technology guru but rather a 'versatilist.'

By Stacy Collett

THE MOST sought-after corporate IT workers in 2010 may be those with no deep-seated technical skills at all. The nuts-and-bolts programming and easy-to-document support jobs will have all gone to third-party providers in the U.S. or abroad. Instead, IT departments will be populated with "versatilists" — those with a technology background who also know the business sector inside and out, can architect and carry out IT plans that will add business value, and can cultivate relationships both inside and outside the company.

That's the general consensus of three research groups that have studied the IT workforce landscape for 2010 — the year that marks the culmination of the decade of the versatile workforce. What's driving these changes? Several culprits include changes in consumer behavior, an increase in corporate mergers and acquisitions, outsourcing, the proliferation of mobile devices and growth in stored data.

What's more, the skills required to land these future technical roles will be honed outside of IT. Some of these skills will come from artistic talents, math excellence or even a knack for public speaking — producing a combination of skills not commonly seen in the IT realm.

On the edges of this new world, expertise in areas such as financial engineering, technology and mathematics will come together to form the next round of imaginative tools and technologies. Google Inc., eBay Inc. and Yahoo Inc. are already hiring math, financial analysis, engineering and technology gurus who will devise imaginative algorithms to fulfill users' online needs. And the National Academy of Sciences has identified a budding area of expertise that combines technology capabilities with artistic and creative skills, such as those found in computer gaming.

Closer to home, "the most effective workforce will be outward-focused, business-driven competency centers," says Diane Morello, an analyst at Gartner Inc. and author of the report "IT Professional Outlook."

"They might be competency centers formed around mergers and acquisitions," she explains. "People in IT might be involved in information integration and systems integration, customer service or some really smart ways where companies can leverage scarce and high-value talent that tend to get dismantled at the end of every project. People will be geographically distributed — so [they'd] better be adaptable and [able to] work with people on teams that [they] don't know."

Project management and application development skills — "whether for service providers, software developers or IT organizations — are characteristics that will be absolute" in 2010, Morello adds.

Also, projects will be multisourced. "You'll be working with people from different types of channels," Morello says. "That will raise opportunities in relationships and sourcing management" and require IT workers to think about process design and management.

By 2010, six out of 10 people affiliated with IT will assume business-facing roles, according to Gartner. What's more, IT organizations in midsize and large companies will be at least 30% smaller than they were in 2005. Gartner also predicts that by 2010, 10% to 15% of IT professionals will leave their IT occupations as a result of the automation of tasks or because of a lack of interest in the sector.

"For my money, the hot jobs in 2010 will be these enabler jobs: business enterprise architects, business technologists, systems analysts and project managers," says David Foote, CEO and chief research officer of Foote Partners LLC, an IT management consultancy and workforce research firm in New Caanan, Conn. "If I were in IT, I would be in one of these jobs in the next five years. A lot of people can't because they're pure technologists. But there are some pretty safe bets for them both inside and outside of the service industry."

"There is much more emphasis on the business domain and on project management skills than on the technical skills," says Kate Kaiser, an associate professor at Marquette University in Milwaukee. In September 2005, Kaiser led a Society for Information Management (SIM) study of 104 CIOs to determine their skills needs through 2008. She expects the top 10 skills identified to remain in the top 12 by 2010.

"It's not that you don't need technical skills, but there's much more of a need for the business skills, the more rounded skills," she notes.

IT professionals who will survive and perhaps thrive in 2010 will expand their knowledge base and stretch beyond their comfort zones. Those who don't will find job opportunities in niche areas. With that in mind, Morello, Foote and Kaiser offer some advice.

Business Domain

HOT
- Enterprise architecture
- Project leadership
- Business process re-engineering
- Project planning, budgeting and scheduling
- Third-party provider managers

Big corporations are getting even bigger through mergers and acquisitions. But merging two companies requires more than just technical and systems integration. While many enterprises have shown that they can successfully integrate systems, "they're lousy at integrating cultures," Foote says. Enterprise architects in the areas of technology, security and data will play key roles in 2010.

Companies like Microsoft Corp. and IBM already know the gargantuan architecture tasks awaiting them in 2010 and are hiring expert- and guru-level enterprise architects. "They're saying, 'There's a level of architecture that if we don't have it, we're [sunk].' " Foote adds.

Gartner asked hundreds of CIOs and symposium attendees which domains they believe will experience the greatest growth and decline between now and 2010. "Unanimously, the areas of greatest growth were in both process and relationships," Morello says.

Outsourcing plays an important role in the growth of skills in the business domain. If companies rely on third-party providers, they must invest in staffers who can manage those relationships.

Technology Infrastructure And Services

HOT
- Systems analysis
- Systems design
- Network design
- Systems auditing

COLD
- Programming
- Routine coding
- Systems testing

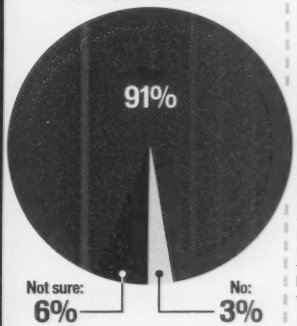
Where Will the Jobs Be?

Which area of IT do you expect will experience the most growth in jobs in the next five years?

1	Web services	6	Disaster recovery/ continuity planning
2	Wireless/mobile	7	Data management/ business analytics
3	Business intelligence	8	E-business
4	Service-oriented architecture	9	RFID
5	Identity management	10	Antivirus protection

Ready to Adapt

Would you be willing to learn a new technical skill to help ensure prolonged employment?



If you answered no or not sure*, what's holding you back from acquiring new technical skills?

Business skills would be more useful in ensuring prolonged employment than more technical skills.	63%
Not enough time in my schedule.	61%
I'm concerned that a new skill wouldn't pay off financially or professionally.	54%
Company has limited funds for skills development.	40%
My company doesn't support skills development outside current job functions.	35%
I have no money to put toward training classes.	27%
I'm concerned that a new skill would require a geographic move to another job.	14%

* Base was 99 respondents.

SOURCE: EXCLUSIVE COMPUTERWORLD SURVEY OF 1,137 IT PROFESSIONALS, MAY 2006. RESPONDENTS COULD CHOOSE ALL ANSWERS THAT APPLIED.

What You Can Do Now

"IF YOU PREFER to stay in the world of technology, such as infrastructure and services, then do whatever you can to be absolutely excellent at that," says Gartner analyst Diane Morello. "That could mean taking on different types of assignments, exposing yourself to new challenges beyond your customary comfort zone or working with new types of disciplines. It's different from just being good. Like a company that benchmarks itself against best practices, you as a professional benchmark yourself against others to see where you stand."

Get as much project management experience as possible, advises Kate Kaiser, an associate professor at Marquette University. The job doesn't have to include the actual managing, she adds, "but being on projects to learn how to be a good manager. Even projects that fail are learning experiences."

Foote Partners' David Foote advises IT workers who prefer to deepen their technical skills to pursue jobs with third-party providers. "Aim for the service firms or these enabler, infrastructure jobs," he says.

– STACY COLLETT

■ **Support and help desk**
■ **Operations – server hosting, telecommunications, operating systems**

According to respondents to the Gartner survey, the skills that will have the steepest decline in 2010 will be in technology infrastructure and service jobs — such as programming and operations work. Those roles will go overseas or more likely be automated.

"The more that [a task] can get codified or changed into explicit instructions or documentation, the more likely it can get transferred. The more likely it can be transferred, the more likely someone will come along and will develop tools to reduce even further the number of people required to do the job," Morello says.

Kaiser says that in the SIM study, keeping systems design and analysis skills in-house in the next five years were considered critical, yet those tasks are frequently outsourced. The reason respondents gave for outsourcing these skills included meeting project needs and enabling flexible staffing.

Systems auditors will grow in importance because "compliance isn't going away — it's getting more intense," Foote says.

Security

HOT ■ **IT security planning and management**
COLD ■ **Continuity and recovery**

As news of data security breaches at high-profile companies keeps coming, so too does the need for security planning and management skills. IT security is one of the top 10 skills that will become "newly important" to companies in the next five years, according to Kaiser.

Companies employ 1.4 million IT security professionals worldwide, according to a January study by IDC on security workforce trends. By 2010, that number will reach 2 million, an increase of almost 30%, the researcher said. U.S. companies will also increase spending on information security training by 16.4% annually through 2009. Meanwhile, skills associated with data continuity and recovery will be relegated to third-party providers.

Storage

HOT ■ **Storage administrator**

A company with an enterprise server strategy needs an enterprise storage strategy and the skills to deploy it. "We've seen the prices of storage administrators with SAN specialization rise. You can't find these people. They're heavily in demand," Foote says.

A storage-area network routes data to storage devices according to rules that administrators set up. It overcomes geographic limitations. So for global companies in 2010, "it's pretty obvious that the administration of storage will be a huge issue going forward simply because of the amount of data we have to deal with [and] the fact that we're looking at geographically broad markets, [and] we're architecting systems that will be relying on utility computing, open-source and managed services," Foote says.

Application Development

HOT ■ **Customer-facing application development**
COLD ■ **Legacy skills**

By 2010, applications will become commodities delivered by external service providers. Internal development won't be dead, though — it will just be done differently in 2010, Foote says. The challenge will be selecting packages and tailoring them to what you need. "Code-writing disappears in this world, unless it's code-writing in customer-facing applications that offer strategic advantage," he adds.

The technology is part of those companies' highly competitive marketing approach. "If you want to work in IT, you want to work in Web application systems. But you'd better also really know the customer, because chances are your competitors have that type of talent," Foote explains. This kind of talent allows IT staffs to do more than simply build things; they can also communicate with co-workers who spend a lot of time with customers or connect with the customers themselves to quickly make changes to process.

"This shaves a lot of time off of build cycles," which usually take three to six months, Foote says. "Rapid applications development and extreme programming are very high-paying skills. But it really fosters agility and flexibility. What's more biz-enabling than reducing a product cycle?"

Internet

HOT ■ **Customer-facing Web application systems**
■ **Artificial intelligence**
■ **Data mining**
■ **Data warehousing**

In the online banking industry, businesses want to manage all of their customers' money — from mortgages to school loans to retirement accounts. To be successful in 2010, they must create Web sites that are user-friendly, with artificial intelligence, data mining and data warehousing capabilities, Foote says.

Business Intelligence

HOT ■ **Business intelligence**
■ **Data warehousing**
■ **Data mining**

Foote's mantra for the coming decade: If you think the marketplace is competitive now, wait until 2010. A leveled global playing field, innovation and the availability of technology to make business execution easy will make hot skills must-haves for competitive companies. ▸

Collett is a Computerworld *contributing writer. Contact her at stcollett@aol.com.*

Make no mistake: If you are an IT specialist who ignores or downplays the demand to develop business-oriented competence, you are at risk of being unemployable within the next five years. Only a rapid and intentional expansion from technical specialization into areas that more clearly link technology to enterprise goals and advantage – such as information design, process design and relationship management – will position today's IT specialists as credible business contributors.

DIANE MORELLO,
ANALYST, GARTNER INC.

Many seasoned IT professionals are simply not up to the challenges ahead. But that's OK, because the younger IT generation just now earning their stripes understands and embraces the new rules. They know that their ability to change the way things are done – spanning geographies, cultures, organizations and entrenched attitudes – will trump technology mastery alone as the bottom line to success in their profession.

DAVID FOOTE,
CEO AND CHIEF RESEARCH OFFICER,
FOOTE PARTNERS LLC

There is much more emphasis on the business domain and on project management skills than on the technical skills. It's not that you don't need technical skills, but there's much more of a need for the business skills, the more rounded skills.

KATE KAISER,
ASSOCIATE PROFESSOR,
MARQUETTE UNIVERSITY

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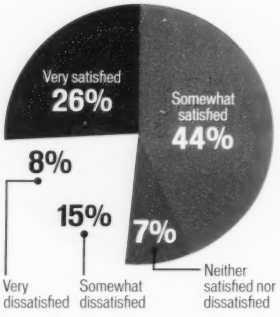
Research Insights

While most IT workers who participated in *Computerworld*'s exclusive job trends survey reported being satisfied with their jobs and careers, a large percentage — 41% — said they have experienced a decline in their overall job satisfaction. **Clearly, IT workers are worried about the technology field as a whole, and outsourcing in particular:** 47% of those surveyed reported that outsourcing was the biggest threat to their job or career, and 56% of those whose career satisfaction has declined said technology careers seem to be a dead end these days.

Losing Steam

Rate your satisfaction with your current job:

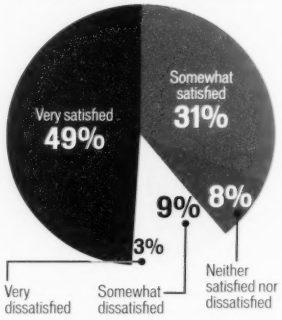


Compared with one year ago, my satisfaction with my job has:

Increased	Decreased	Not changed
23%	41%	36%

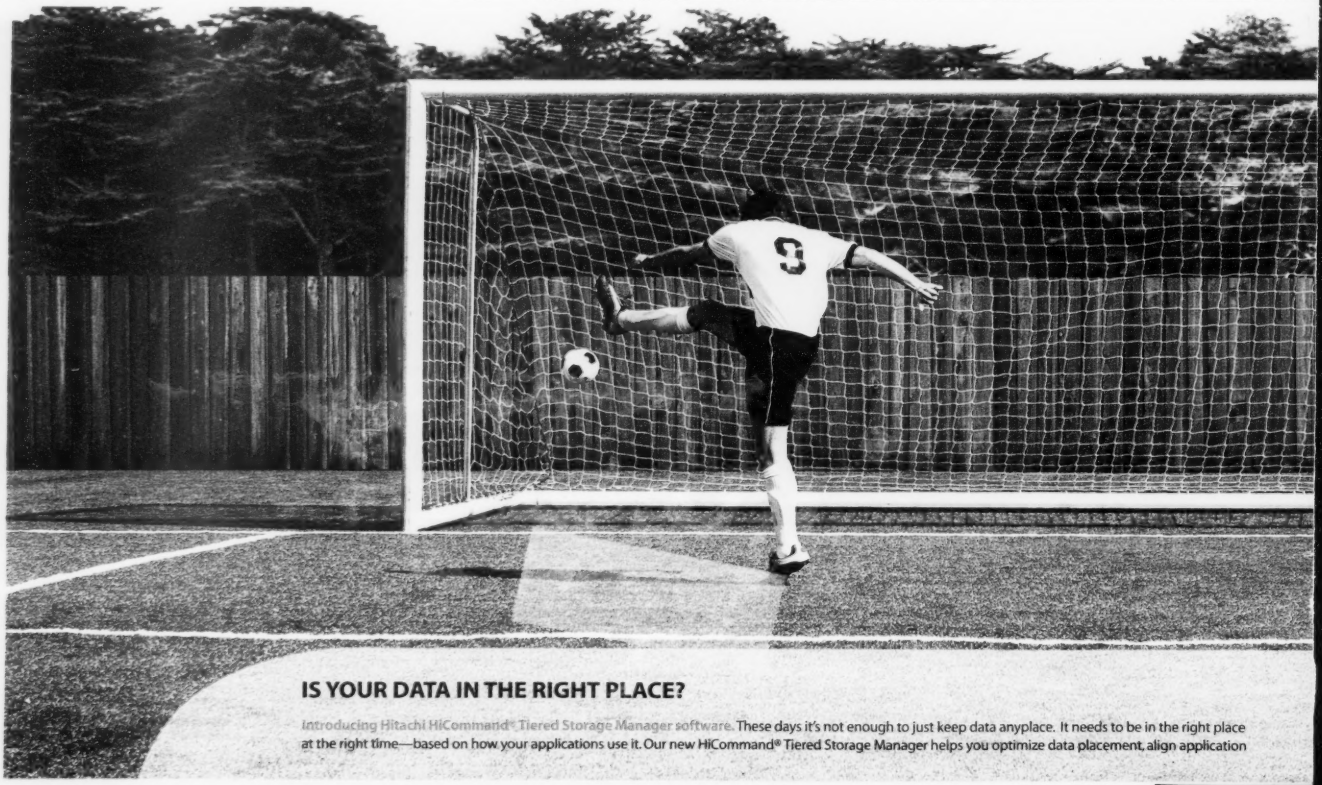
But Still High on IT

Rate your satisfaction with your decision to pursue a career in IT:



Compared with one year ago, my satisfaction with my career choice has:

Increased	Decreased	Not changed
12%	23%	65%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What They Like

If your career satisfaction has increased, what are the reasons why?*

My job is consistently challenging.	71%
Technology continues to capture my imagination.	56%
My company is experiencing growth and innovation.	48%
I've been given a pay raise or otherwise feel fairly compensated.	45%
I've been promoted.	26%

Base: 141 respondents

What They Don't

If your career satisfaction has decreased, what are the reasons why?*

Technology careers like mine seem to be a dead end these days.	56%
My job is difficult and rewards are few.	42%
My company has stagnated, financially or creatively.	38%
My salary has been frozen or cut, or bonuses have dried up.	35%
I've lost rank or responsibilities within my company as a result of downsizing or outsourcing.	31%

Base: 260 respondents

Looming Threats

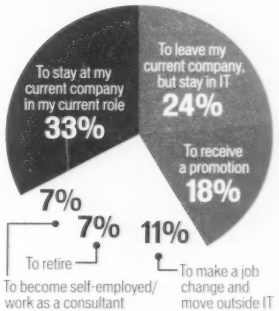
What do you see as the biggest threats to your job/career?*

IT jobs are being outsourced overseas.	47%
Technology advancements make it impossible for me to keep my skills current.	33%
My business is moving in the wrong direction.	30%
Greener pastures in other industries will eventually lure me away from IT.	25%
The IT industry as a whole is moving in the wrong direction.	19%

Base: 1,137 respondents

The Road Ahead

What are your career expectations for the next five years?



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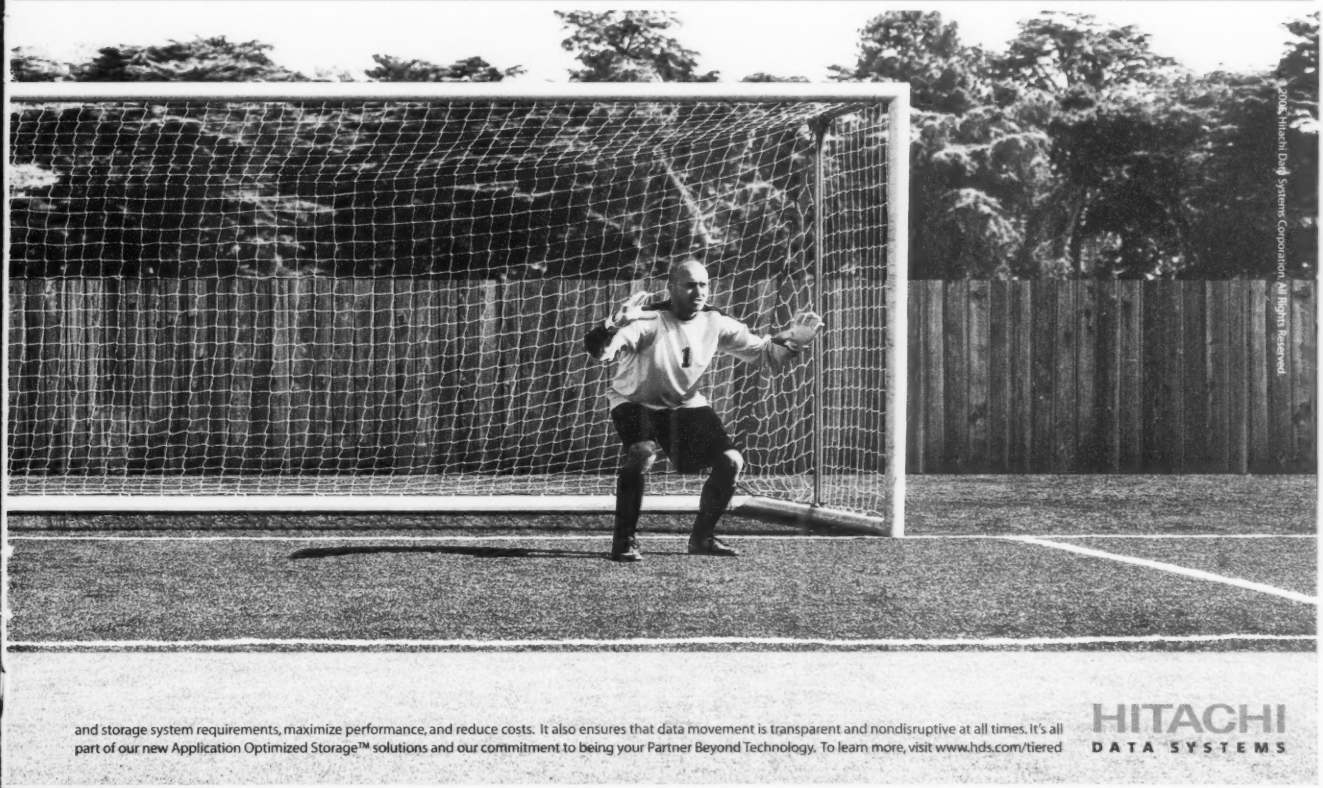
SOURCE: EXCLUSIVE *COMPUTERWORLD* SURVEY OF 1,137 IT PROFESSIONALS, MAY 2006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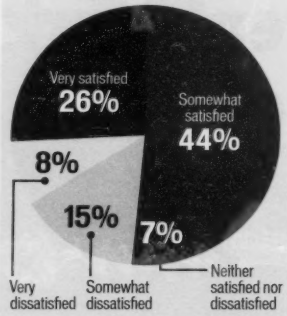

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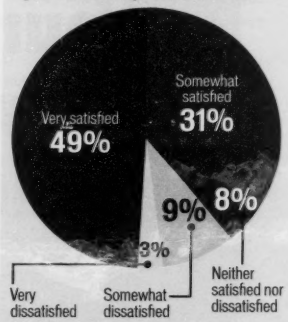

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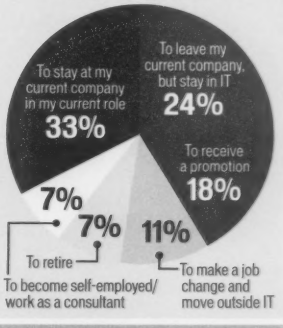

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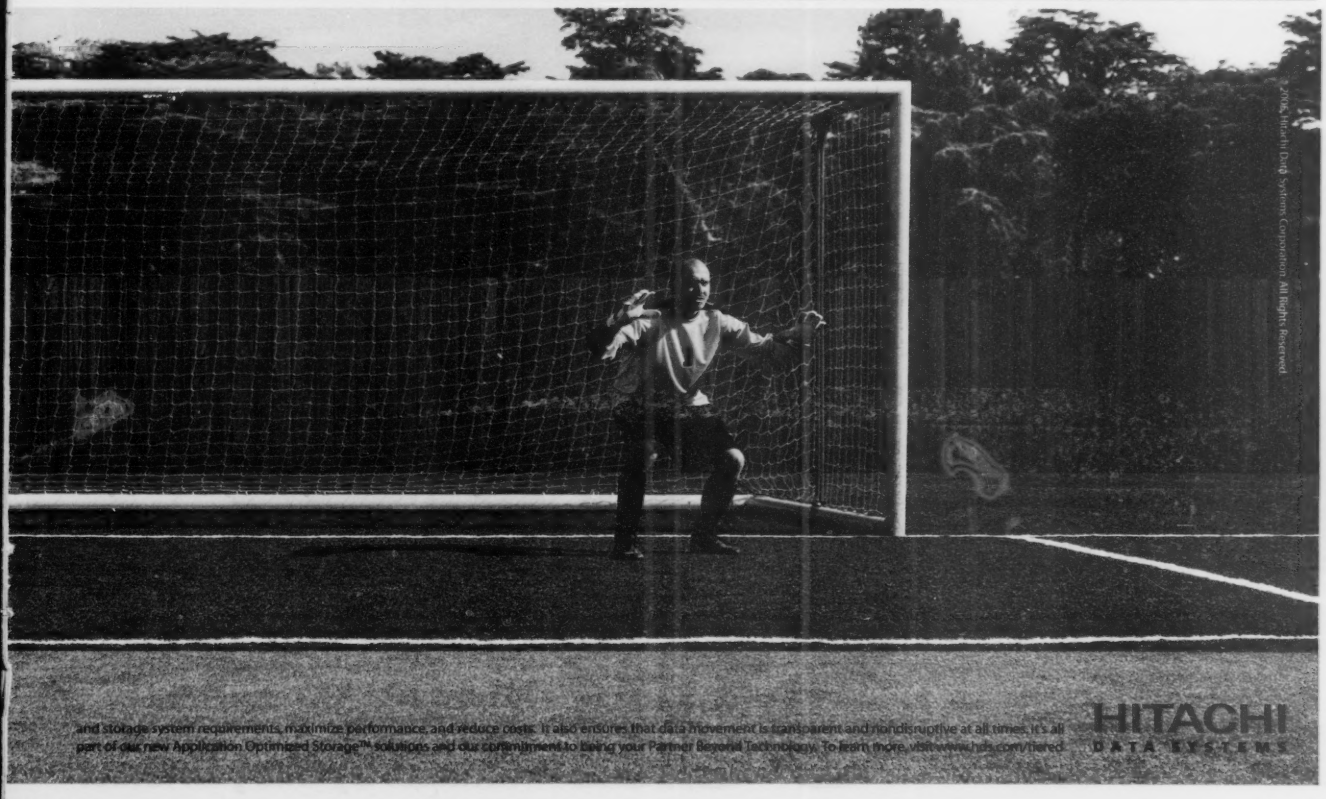
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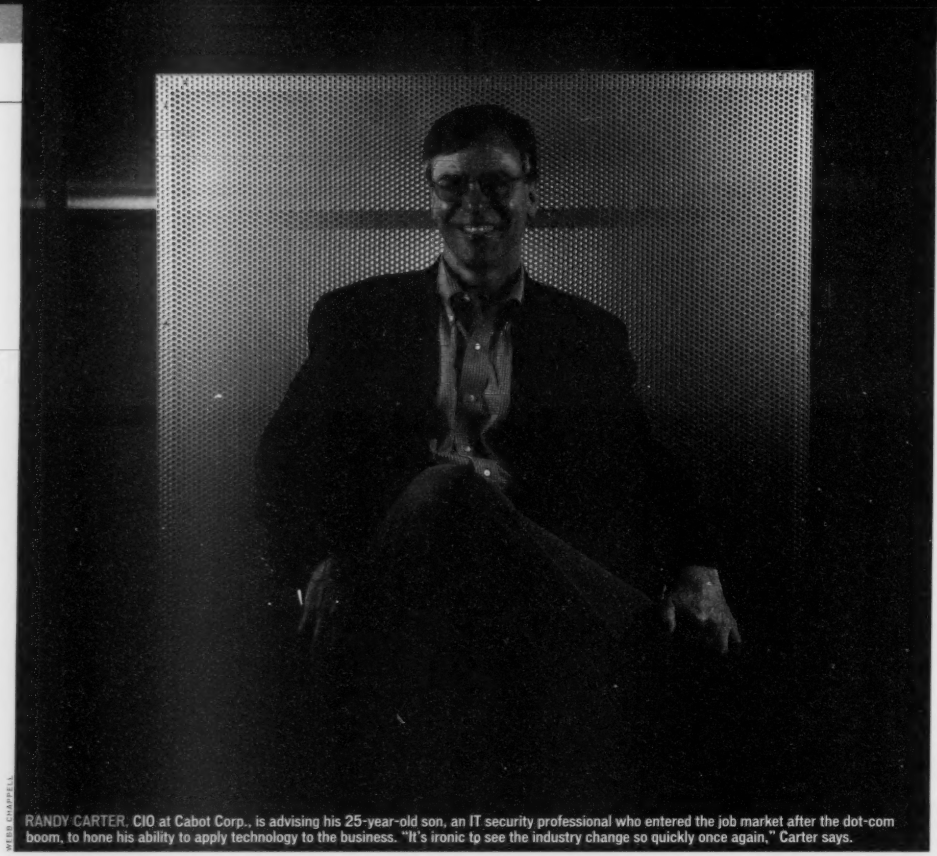

WEB CHAPPELL

RANDY CARTER, CIO at Cabot Corp., is advising his 25-year-old son, an IT security professional who entered the job market after the dot-com boom, to hone his ability to apply technology to the business. "It's ironic to see the industry change so quickly once again," Carter says.

The World Gets Smaller Still

Savvy IT workers will turn globalization and an increased demand for IT skills to their advantage. By Mary Brandel

RANDY CARTER, CIO at Cabot Corp. in Boston, has a daughter and two sons, one of whom was a freshman in college during the dot-com boom, when many parents didn't think twice about urging their school-age kids to get into IT. Carter's son graduated as a computer engineer into the gloomy hiring climate of 2003, made even gloomier by the increasing practice of offshoring, which was taking hold at the time.

Now that his son is 25 years old and an IT security professional, Carter is seeing the industry change once again. Even with lower-level tech jobs continuing to move offshore, demand is up for IT professionals. But the domestic job openings are increasingly geared toward people with sophisticated technology skills, business acumen or project management capabilities. In fact, Carter is now advising his son to hone his ability to apply technology to the business. "It's ironic to see the industry change so quickly once again," Carter says.

In the upcoming four years, it's clear that the global marketplace will continue to deepen and expand with the burgeoning economies and skills development of countries like India, Brazil, China and Russia. Meanwhile, it will increasingly become an accepted fact that it's not economically sensible to hire high-wage U.S. workers to do jobs involving basic programming, tech support, quality assurance and testing.

But while globalization will continue to cause a sea change in the IT industry, the waves can be viewed not as damaging tsunamis, but as opportunities — as long as you keep your eye on the hori-

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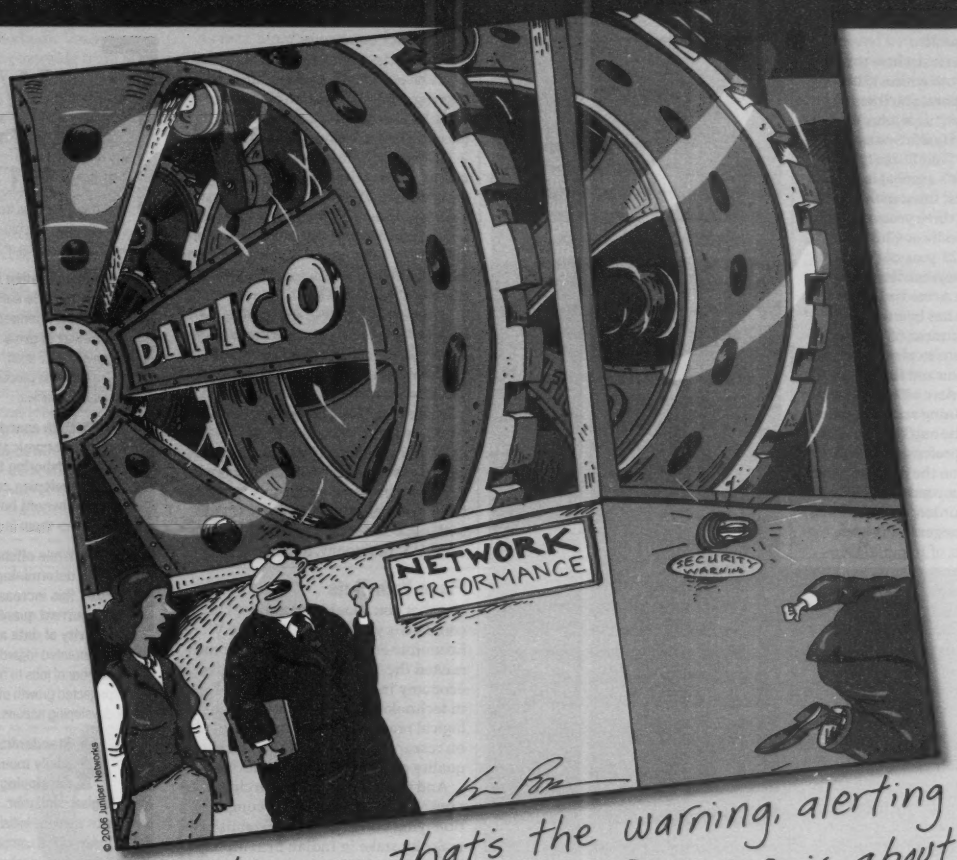

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Continued from page 28

zon and maybe even learn how to surf.

"If you want to work within 15 blocks of where you were born, you'll see globalization as a threat," says John Wade, CIO at Saint Luke's Health System Inc. in Kansas City, Mo. "But IT isn't a U.S. industry anymore; it's a global industry. Would it be the worst thing in the world if you did your first three years of IT in Ireland, Germany, India or China?"

Indeed, Carter's 23-year-old daughter's experience is representative of the globalization of IT. Armed with an economics degree, she has been working with the U.S. Department of State to implement ERP systems in places such as Zambia, Mali, Bolivia and Bosnia. In all, she has traveled to seven Third World countries to do training and support.

And even with the outflow of lower-level tech jobs, IT professionals will still be in demand on the domestic front through 2010 and beyond. Some observers, like Edward Gordon, author of *The 2010 Meltdown* (Praeger Publishers, 2005) and president of Imperial Consulting Corp. in Chicago, see a worldwide IT skills crisis on the horizon. "I'm aware of older engineers who are out of work, either because they didn't know the latest software or their companies were looking to bring in cheap foreign labor," he says. "But those companies will regret it, because the economy is going to continue to grow. And as the baby boomers retire [in 2010], 79 million people will leave the workforce and only 49 million will enter."

Meanwhile, technology will infiltrate every aspect of life on a global scale, Gordon says, and "as we continue to expand our demand for sophisticated technology to drive every aspect of the economy, we need more people to design and manage those efforts, and we don't have enough to do that."

A Shifting World

So the first rule for the next four years is to not get too invested in your current worldview. With 20% to 30% growth among Indian-based IT services firms, including Tata Consultancy Services Ltd., Infosys Technologies Ltd. and Wipro Ltd., U.S. outsourcers such as IBM, Accenture Ltd. and Electronic Data Systems Corp. are facing some ferocious competitors, and it's not clear yet which companies will prevail.

"Years ago in the software area, there was one serious competitor — the U.S. — and that's changing," says Moshe Vardi, professor of computer science at Rice University in Houston and co-author of the "Globalization and Offshoring of Software," a report released by the Association for Computing Machinery (see "What You Should Know," at right). "We have to learn how to compete, and it's tough having competition."

PREDICTIONS

IT professionals in India will be the highest-paid occupation in the country, within 15% of U.S. compensation. The luster of outsourcing will dull, reducing the amount of work sent to India from developed countries. Indian firms will be caught in the trap of higher wages and less work, causing serious IT unemployment in Asia.

A new center of computer programming will emerge in Costa Rica as well-educated and well-trained young people put their skills to work. Without a large domestic market for their services, these competent professionals will sell their services on the global market for a fraction of the fees charged by competitors.

— A STRATEGIC BUSINESS FUTURIST WHO FOCUSES ON WORKFORCE TRENDS AND CEO OF THE HERMAN GROUP IN GREENSBORO, N.C.

The Indian firms are already starting to rival their U.S. competitors, according to Michael Corbett, executive director of the International Association of Outsourcing Professionals in LaGrangeville, N.Y. "I would not predict they'll knock IBM or EDS off their pedestals, but they'll win at least their fair share of the business," he says.

According to Paul Roehrig, an analyst at Forrester Research Inc. in Cambridge, Mass., Indian firms in the aggregate are currently winning more business from traditional players. "By 2010, we'll probably have fewer providers because of consolidation, but they will be on fire," he says. "The fat margins these firms now enjoy clearly can't last forever, but they can last long enough to continue to build strong businesses that can take more business from the traditional powerhouse companies."

Despite rising wages in India, there won't be a dramatic global shift in offshoring power away from the country by 2010, observers say. However, India's pace of growth will slow, and IT services firms in China, Eastern Europe and Latin America will start to make their presence felt, Corbett says. "We're seeing players in software development and testing emerge, but when you think about fully integrated technology and even business process capability, it's not there yet," he says.

Ultimately, Chinese companies will become full-blown competitors, Roehrig says, "but in the next few years, they will struggle to move into IT services en masse."

Meanwhile, the U.S. economy will continue to grow, but it will also be increasingly burdened by an aging population, growing national and personal debt, an increasing dichotomy between those with technical literacy and those without, war debt, and global ill will toward U.S. hegemony, Roehrig says.

Place Your Bets

Not that you should bet against U.S. companies yet. According to the World Economic Forum, the U.S. is currently ranked the second most competitive economy in the world and is also first in technology and innovation, technological readiness, company spending on research and technology, and the quality of its research institutions.

And the large U.S. outsourcing firms aren't taking the increased competition lying down. EDS has established a majority stake in Indian firm Mphasis BFL Ltd., and IBM recently announced plans to invest $6 billion over the next three years in its operations in India. Accenture has also been expanding aggressively in India.

Meanwhile, wages in India will continue to rise. According to neoIT, wages for Indian engineers rose 10% to 15% during 2004 and will continue on an upward trend of 8.7% annually through 2010. This narrowing wage gap could discourage some companies from Indian-based offshoring.

"Five years ago, employing an engineer in China cost one-tenth of what it cost in the U.S., and today it costs just half," Gordon says. "So if your main focus is low cost, you're going to find out in the next few years that India and China no longer offer a rock-bottom wage structure that makes up for the many other problems companies have offshoring to China and India."

There are also signs of a renewed innovative spirit from Silicon Valley and

What You Should Know

Six key findings from the Association for Computing Machinery's "Globalization and Offshoring of Software" report:

1 Globalization of and offshoring within the software industry are deeply connected, and both will continue to grow. Key enablers of this growth are IT itself, the evolution of work and business processes, education and national policies.

2 Both anecdotal evidence and economic theory indicate that offshoring between developed and developing countries can, as a whole, benefit both, but competition between them is intensifying.

3 While offshoring will increase, determining the specifics of this increase is difficult, given the current quantity, quality and objectivity of data available. Skepticism is warranted regarding claims about the number of jobs to be offshored and the projected growth of software industries in developing nations.

4 Standardized jobs are more easily moved from developed to developing countries than are higher-skill jobs. These standardized jobs were the initial focus of offshoring. Today, global competition in higher-end professions, such as research, is increasing. These trends have implications for individuals, companies and countries.

5 Offshoring magnifies existing risks and creates new and often poorly understood or addressed threats to national security, business property and processes, and individuals' privacy. Although it is unlikely that these risks will deter the growth of offshoring, businesses and nations should employ strategies to mitigate them.

6 To stay competitive in a global IT environment and industry, countries must adopt policies that foster innovation. Toward this end, policies that improve a country's ability to attract, educate and retain the best IT talent are critical. Educational policy and investment are at the core.

THE FULL REPORT IS AVAILABLE AT */GLOBALIZATIONREPORT*.

other technology hotbeds. Vardi sees a wave of start-ups emerging from Silicon Valley geared around Web 2.0 and the Semantic Web, projects that aim to make Web pages understandable by computers so that they can search Web sites and perform actions in a standardized way. "We're going to see another wave of innovation generating lots of jobs," Gordon says.

He adds that countries such as China and India will soon experience a skills crisis that won't be easily solved because the countries' educational systems are fragile and underdeveloped. "There are huge disparities in infrastructure that will significantly hobble China and India if they're not careful," Gordon says. He points to the 18% illiteracy rate in China and the 42% rate in India, plus the countries' high percentages of people living in poverty with little or no access to education.

"If you told someone in India that the U.S. is afraid of them, they'd laugh," Vardi agrees.

As for China, "they have the bulk, the smarts and the will to succeed, but they are handicapped by infrastructure problems, lack of natural resources and political considerations," Roehrig says. According to Forrester, 54% of Chinese firms plan to increase their new IT investments, but 83% of their overall IT spending will go to ongoing maintenance and support, leaving limited budgetary leeway for investments in new technology.

The Asian skills crisis will affect the U.S., whose own workforce will stop growing by 2008, Gordon says. There simply won't be enough IT talent to go around because of a number of factors, he says: Foreign nationals are returning to their places of birth, where economic opportunities are increasing; enrollments in computer science and math programs are decreasing in the U.S.; and employers are reluctant to invest in worker retraining.

There's another way that globalization will increase IT demand, Corbett says: As you lower costs through offshoring, there's more to invest in technology projects.

But the types of jobs that will be created will be different from those in the past. One growth area will be in aggregating service management across multiple internal and external providers, Roehrig says. "This is going to put a higher burden on executive- and senior-level management and sourcing governance," he says.

There will also be strong demand for project managers and business analysts, Carter says. "I'm telling my managers if they've got an opening, those are the skills I'm looking for, and that if they need a developer, get a contractor, not an employee."

Experience managing global projects will also be a plus. Robert Half Technology recently managed a search for a director of quality assurance with experience in offshore efforts, says Jeff Markham, division director at the staffing firm.

Demand for certain skills will also grow, particularly in the areas of Web applications, wireless Web connectivity and security, Vardi says. "Any IT worker who's not upgrading his skills on an ongoing basis is falling behind," he says.

To some people, that pressure will represent a threat. But to others, it will spell opportunity. "The issue of globalization as a threat is a perception that people have put in their heads, and it's having consequences that aren't the best for the U.S.," Wade says. "We have to realize that we've moved from the Information Age into the Global Age."

And that requires action, Corbett says. "We have to invest in our people and our infrastructure and have a strong focus on really understanding where the U.S. companies can create a unique advantage for themselves," he says. "We have to believe we can win."

Brandel is a Computerworld *contributing writer. Contact her at marybrandel@verizon.net.*

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H-1B Remains a Hot-Button Issue

New bills and congressional wrangling will decide the limits of temporary work visas. By Bob Violino

HOW MIGHT new immigration laws and changes in the H-1B temporary visa program affect the state of the IT profession by 2010? It's hard to predict what the U.S. Congress will do this year, let alone over the next four years. But there are a finite number of scenarios that could have an impact on IT workers here in the U.S. — and experts think there will be plenty of career opportunities in IT regardless of what happens.

Several bills currently in Congress could affect the visa program. The Senate recently passed the Comprehensive Immigration Reform Act of 2006 (S. 2611), which calls for increasing the H-1B visa cap from the current 65,000 to 115,000 annually and automatically increasing the cap by 20% in any year in which the cap is met. The bill also calls for the removal of limits on H-1B exemptions for foreign students who graduate from U.S. colleges and universities with advanced degrees.

Another bill, the Securing Knowledge, Innovation, and Leadership (SKIL) Act of 2006 (S. 2691), also would increase the H-1B visa cap to 115,000.

Despite the calls for a higher cap on visas in the proposed legislation, some observers expect to see little or no change in the U.S. policy on temporary work visas over the next several years.

"We're not seeing demand [for more visas] from our clients," says John Bace, an analyst at Gartner Inc. in Stamford, Conn., who covers IT and public policy. He says Gartner uses a "life-cycle model" that tracks societal needs that generally trigger public policy such as congressional legislation. "Using that model, I don't see any gap that's driving [the need for more visas] at this time," he says. "I'd say the program will probably continue the way it is."

But others maintain that there's a substantial shortage of skilled IT workers in the U.S. that's spurring a need for more temporary work visas. "We're just not training [enough students] in technology, science, engineering and mathematics," and companies are looking overseas for these skills, says Nancy Markle, past president of the Society for Information Management in Chicago and a member of the board of a new SIM foundation set up to support technology education programs.

Markle says that in the past, many foreign students who studied technical disciplines in the U.S. stayed here to work for U.S. companies. But that's changing. Because career opportunities are expanding overseas, more people are moving back to their home countries after studying in the U.S.

"In terms of H-1B visas, we don't have a choice because we're not training students," so the need for skills must be met by foreign workers, Markle says. "Students and [their] parents don't think there are jobs in the technology sector. There are jobs." And with the coming retirement of baby boomers, more jobs will open up, she says. Even if the visa cap increases, IT workers in the U.S. should find plenty of opportunities.

Stuart Anderson, executive director of the National Foundation for American Policy, says that without a higher visa cap, "a skilled or highly educated foreign national can't work or stay in the U.S.," and that will hurt U.S. competitiveness. The Arlington, Va.-based foundation conducts public policy research on trade, immigration, education and other issues.

Anderson predicts that there will be an increase in the visa cap and says that there appears to be bipartisan support in the Senate for the visa program. There's no reason to think an increase in visas will take IT jobs away from U.S. workers, he says. "Fields can expand or contract based on innovation," he says, and the more open the U.S. is to foreign talent, the more likely companies are to research new technology and ultimately create new jobs.

Not everyone agrees that a cap increase is good for U.S. workers. "As the statutes are currently written, the [visa] program hurts U.S. IT workers much more than it benefits them," says Ron Hira, assistant professor of public policy at the Rochester Institute of Technology in Rochester, N.Y. "So any increase in the cap is bad news for U.S. IT workers. They will have reduced opportunities as H-1Bs substitute for U.S. workers, and [foreign workers] will reduce wages as they add to the supply of IT workers."

Whether the cap is increased, scaled back or left alone, it's a sure bet that the debate will still be raging four years from now.

Violino is a freelance writer in Massapequa Park, N.Y. Contact him at bviolino@optonline.net.

On the Hill

Comprehensive Immigration Reform Act of 2006 (S. 2611)

A bill to provide for comprehensive immigration reform, among other purposes.

Specter

Introduced: April 7, 2006

Sponsor: Sen. Arlen Specter (R-Pa.)

Co-sponsors: Sen. Sam Brownback (R-Kan.), Sen. Lindsey Graham (R-S.C.), Sen. Chuck Hagel (R-Neb.), Sen. Edward Kennedy (D-Mass.), Sen. Mel Martinez (R-Fla.), Sen. John McCain (R-Ariz.)

Latest major action: The bill passed the Senate with amendments on May 25, 2006, by a vote of 62-36.

Securing Knowledge, Innovation, and Leadership (SKIL) Act of 2006 (S. 2691)

A bill to amend the Immigration and Nationality Act to increase competitiveness in the U.S., among other purposes.

Cornyn

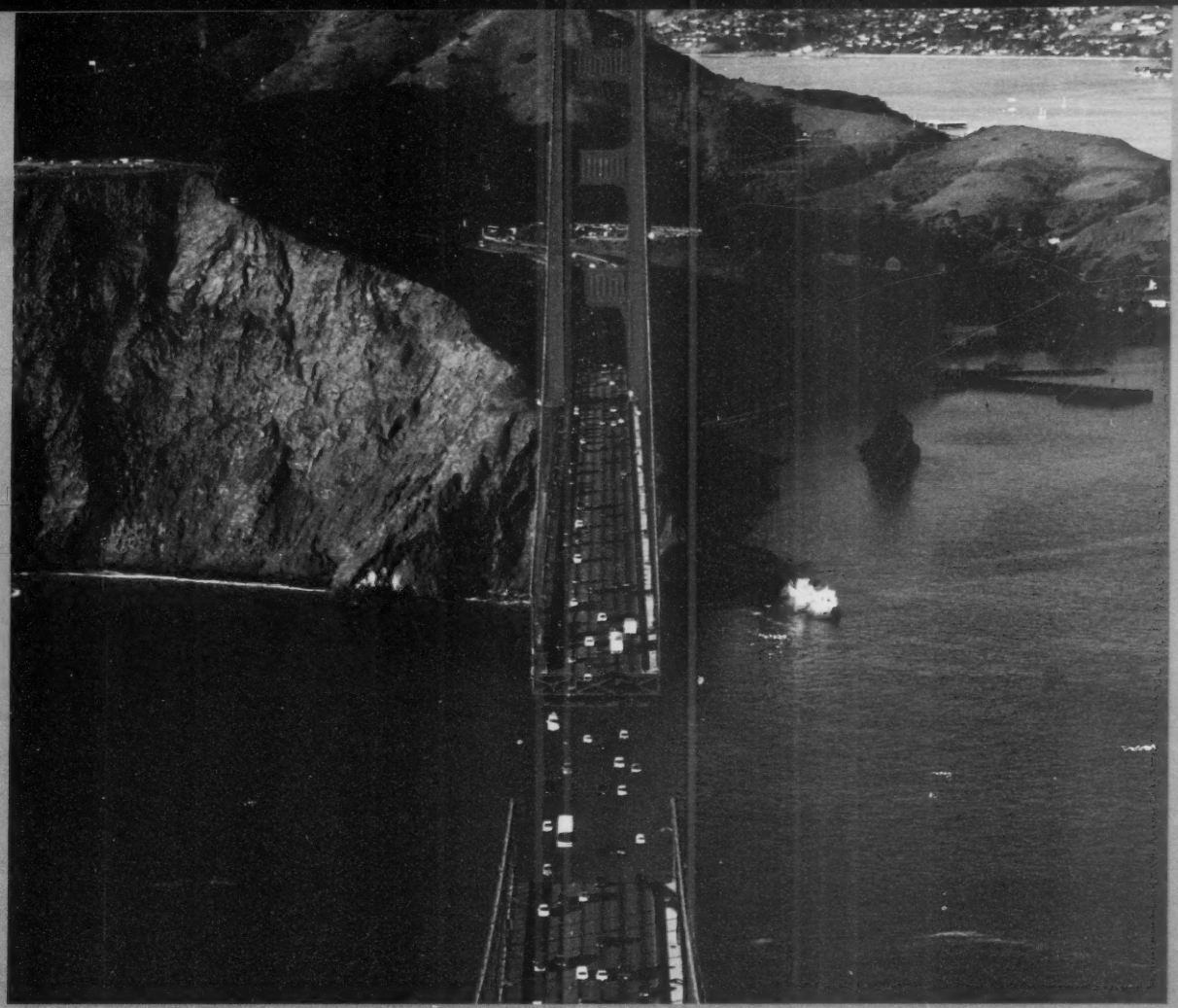
Introduced: May 2, 2006

Sponsor: Sen. John Cornyn (R-Texas)

Co-sponsors: Sen. Wayne Allard (R-Colo.), Sen. George Allen (R-Va.), Sen. Robert F. Bennett (R-Utah), Sen. Michael B. Enzi (R-Wyo.), Sen. Kay Bailey Hutchinson (R-Texas), Sen. Trent Lott (R-Miss.)

Latest major action: On May 2, 2006, the bill was referred to the Committee on the Judiciary.

SOURCE: LIBRARY OF CONGRESS



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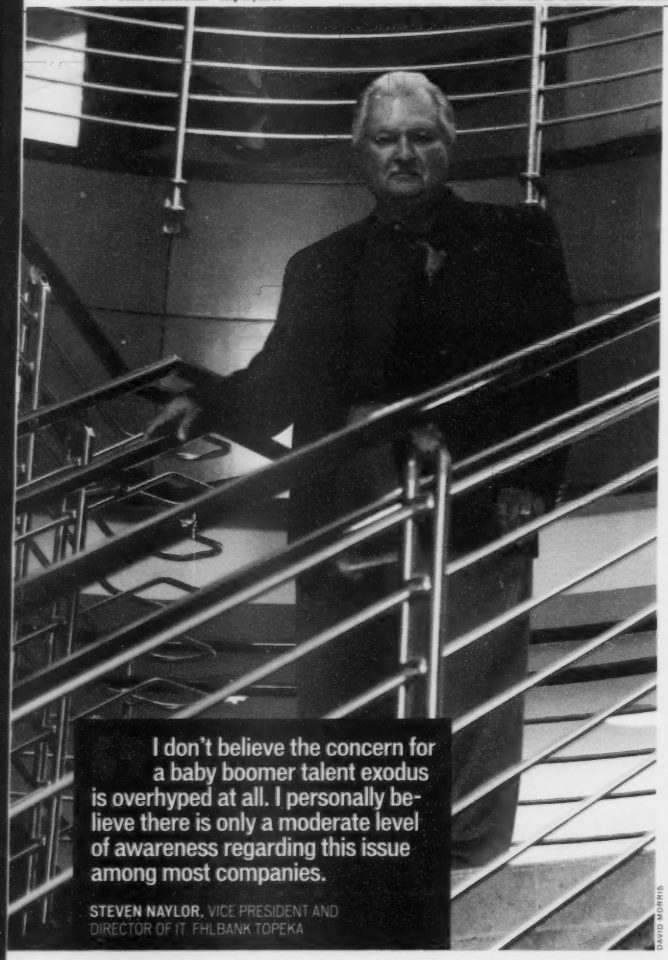
*Potential savings based on IDC White Paper, Ensuring Information Availability: Aligning Customer Needs with an Optimal Investment Strategy



I don't believe the concern for a baby boomer talent exodus is overhyped at all. I personally believe there is only a moderate level of awareness regarding this issue among most companies.

STEVEN NAYLOR, VICE PRESIDENT AND DIRECTOR OF IT, FHLBANK TOPEKA

DAVID MORRIS

Boomers Bid Farewell

Smart companies will negotiate flexible schedules to keep older workers on board.

By Jennifer McAdams

APPLICANTS OVER the age of 50 beating the streets in today's IT job market bear résumés that are commonly stigmatized as pricey and outdated, given recent leaps in technology and sweeping operational changes at many companies. Yet this crowd may prove to be the IT profession's salvation, especially over the next four years as baby boomers retire from the workforce in droves.

While some industry experts and executives claim that the looming baby boomer exodus is a lot of hype, most argue that its impact can't be overstated. The numbers seem to back up the latter position. In 2010, about one out of every three workers in the U.S. will be over 50. In 2012, there could be as many as 21 million vacant jobs but just 17 million workers to fill those posts, according to The Computing Technology Industry Association Inc. (CompTIA) in Oak Brook, Ill.

IT employers are just waking up to the mounting crisis of baby boomers walking out the door en masse. These mature workers will take with them valuable institutional knowledge and the skills needed to run legacy systems. Savvy corporations should think right now about maintaining ties with older workers who are looking to power down — but not entirely abandon — their careers. Another corporate must-have: solid mentoring programs that pair up-and-coming IT executives with seasoned professionals.

"I don't believe the concern for a baby boomer talent exodus is overhyped at all," says Steven Naylor, vice president and director of IT at FHLBank Topeka in Kansas. "Clearly, there will be a significant shortage of talent as a result of an aging, retiring IT workforce. I personally believe there is only a moderate level of awareness regarding this issue among most companies."

FHLBank is part of an industry expected to be hit especially hard when baby boomers leave. Other markets that need to move quickly toward stopgap measures are the insurance, telecommunications and retail industries, as well as the automotive and aerospace sectors of the manufacturing industry, according to several industry watchers.

Government is also vulnerable. "About 400,000 federal employees could retire tomorrow," says Robert Rosen, CIO at the National Institute of Arthritis and Musculoskeletal and Skin Diseases, which is part of the National Institutes of Health. Rosen is also president of Share, a Chicago-based IBM user group. "Obviously, this is a concern at NIH."

Concern over the loss of experienced IT talent also pervades FHLBank, which is therefore moving fast to address issues coming down the pike. "We are taking active steps to partner [more mature] individuals with less experienced staff on projects," says Naylor. "We are encouraging younger workers to volunteer and assume responsibilities for support activities normally held by more seasoned individuals, and we are expos-

Near-Retirees' Skills? Priceless

THE MASSIVE EXODUS of baby boomers doesn't represent a mere changing of the guard. Both younger IT workers and seasoned executives can ride a tidal wave of opportunity, as long as they think strategically.

Seasoned IT workers will be able to leverage their experience big time. One way to do that is to broker a deal around the crafting of an extensive exit report or interview, notes Yang Lee, associate professor of information, operations and analysis at Northeastern University in Boston.

Departing baby boomers will hold all the cards as corporate officials scramble for information, Lee explains. They'll be asking questions like these: "Do you know where the information is? Do you know how I should do such and such? How did workers do this when you were here?" she says.

Exiting baby boomers will also be able to draw on their vast knowledge of the plethora of platforms that existed before the IT industry collapsed down to a few operating systems from major vendors like Microsoft Corp., experts say.

"It is much harder to find IT professionals with complex systems engineering skills and experience," says Peter George, chief technology officer at Kronos Inc., a workforce management company in Chelmsford, Mass. Fading fast is experience with database systems, middleware and development tools from companies such as IBM, Sun Microsystems Inc. and the former Digital Equipment Corp. and Data General Corp., he adds.

Continued reliance on mainframes will also buoy the careers of retiring IT workers, says Don Pate, CEO of mainframe software and services company Neon Enterprise Software in Sugar Land, Texas. "There are areas where the IBM mainframe is still alive and well," he says.

For that reason, IT workers will be able to bargain for deals based on their experience with programming languages like Cobol and assembler. Expertise with IBM-specific operating systems such as DB2, z/OS and VSAM will also be in high demand, says Pate.

"It's hard to find a school that teaches Cobol or older data-access methods. Who wants to work in Pong technology when you can work in digital video?" says Tony Connor, president of Spherion Pacific Enterprises LLC, a recruiting and staffing company in Fort Lauderdale, Fla.

For workers new to the field, it will be important to think ahead, advises Paul Groce, a partner at New York-based executive search company Christian & Timbers. "Plot your career based on what the CIO of the future will look like," he says. "Beware of emulating your mentor's career choices."

According to Groce, a template for the CIO track of the future may look something like this: Hone application development skills, move into an information architecture area, jockey for a senior operations position abroad and return to the States ready to grab your company's top IT post.

Playing the field is another option. "Become a free agent. High-impact workers will change jobs every two to four years, sometimes more frequently," says Jim Lanzalotto, vice president of strategy and marketing at Yoh Services LLC, a talent outsourcing service in Philadelphia.

For IT workers of all generations, honing basic engineering skills will be crucial, stresses Michael Gregoire, president and CEO of San Francisco-based talent management company Taleo Corp., who cites figures from NASA. "In engineering," he says, "NASA estimates that more than 300,000 of the 1.3 million new IT jobs will go unfilled between now and 2008."

– JENNIFER McADAMS

ing younger workers to direct training opportunities."

Rent-A-Center Inc. (RAC), a Plano, Texas-based electronics and furniture rent-to-own business has a similar strategy. "We are focused on growing our own leaders, and the biggest reason for this is the value we put on corporate knowledge and the emphasis we put on retaining that knowledge. It promotes our culture and helps define a career path for people," says David Oles, IT director of research and development at RAC.

Still, RAC and other organizations are not so quick to write off older workers. "Mature workers who experienced their prime working years in a different time don't want to be overlooked for training and development," says Oles.

A Change Will Do You Good

Indeed, many baby boomers are not ready to be put out to pasture quite yet — nor can they afford to be, according to Sandy Berger, host of Washington-based AARP's computer and technology Web site. "Don't overlook the fact that many baby boomers who are retiring from one profession are going on to create new careers for themselves," she says. "They will stay within the same IT field but will choose jobs that they prefer or that actually better suit their strengths."

For many workers nearing retirement, life-balance issues are crucial. Thus, they may consider a move to contractor status. "In the height of the knowledge management boom, we created an employee-emeritus program," says Dan Rasmus, director of information work vision in Microsoft Corp.'s information worker group. "This way, when we have an employee retire, we can rehire that employee at a pay scale worked out ahead of time or put in place a scenario where that employee works one day a week."

Not all aging workers, however, are set on becoming contractors. Many need benefits and are open to moving into lesser positions in order to keep them. In such cases, an organization may transfer IT leadership to younger workers but retain older workers in nonmanagement roles. That way, they don't lose institutional knowledge, and they keep employees happy. "Older workers may not want the top jobs. The may be looking for less responsibility, less stress," says Neill Hopkins, CompTIA's vice president of skills development.

If seasoned workers aren't retained, employers could suffer across the board. Mature workers now hold down many project management positions that can make or break major IT initiatives. "Cross-functional skills necessary for project management center on the ability to make sure everybody is on the same page to keep a project aligned," says Gary Cormier, executive vice president at BrassRing LLC, a talent management company in Waltham, Mass.

To get younger workers in position to take over project management and other broad IT responsibilities and to preserve corporate knowledge, industries will ultimately have to band together, says James Kelley, performance management project leader at Idaho Power in Boise.

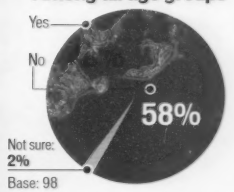
"Long term, the solution is to collaborate as an industry with educational and legislative institutions," he says. "The engineering class of 2015 is in middle school today. We need to be out there recruiting the seeds that will bear fruit in the next decade."

McAdams is a freelance writer in Vienna, Va. You can contact her at jmtechwriter@aol.com.

Skills Drain

Are you currently training someone on staff to take over your duties, or are you somehow transferring your knowledge?

Among all age groups



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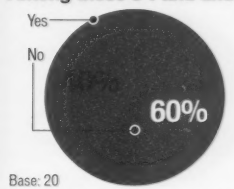
Among those 54 and under



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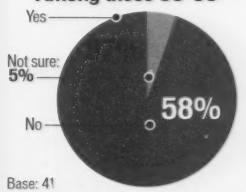
Among those 55-59



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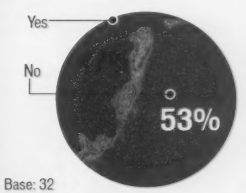
Among those 60 and older



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SOURCE: EXCLUSIVE COMPUTERWORLD SURVEY OF IT PROFESSIONALS, MAY 2006

New Recruits Still Scarce

MELINDA BECK

Experts hope to reverse the trend with smart ideas to entice fresh talent to the field.

By Drew Robb

BACK IN THE DAYS when mainframes ruled, there was a close ratio between IT workers and computers. Now, PCs worldwide number close to 1 billion, but the number of IT workers joining the field is dwindling fast.

"We're seeing a lack of talented IT professionals looking for new positions," says Greg Fittinghoff, vice president of business systems development at Time Inc. in New York. "We're also noticing that the pipeline of candidates from top consulting companies looking for permanent placement is drying up."

Experts say this problem will only get worse by 2010. As the demand for IT-savvy staffers continues to grow, the number of people seeking computer science degrees is in a free fall. "According to the Bureau of Labor Statistics, one out of every four new jobs between now and 2012 will be IT-related," says Mark Hanny, vice president of IBM's Academic Initiative outreach program.

Yet according to the Computing Research Association, the percentage of college freshmen listing computer science as their probable major fell 70% between 2000 and 2004. The drop-off has been even more severe among women, who, although they now make up the majority of students on college campuses, account for only 28% of the computer science bachelor's degrees granted, down from 38% in 1984.

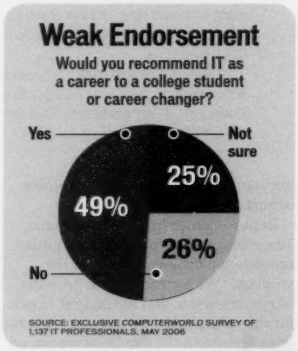
To turn this trend around, several initiatives are under way to encourage more workers to join the IT field. Some programs help students who are currently taking computer science courses complete their studies; others take the longer view, targeting K-12 students with free software, classroom speakers and age-appropriate curricula.

But Hanny says that none of the current activities is enough to completely solve the shortage in the next few years; it will take something similar to the nation's response to sputnik. "In the K-12 area, it would be so much better to see this come together as a national effort," he says. "If we want to continue to maintain our leadership, we must get more of our students excited about this as a career at a very young age."

Downgrading Drudgery

Several factors have been cited for the drop in interest, including the threat of outsourcing, the loss of jobs after the dot-com meltdown, and a boom in disciplines such as biology attracting students who might otherwise opt for IT.

"High school guidance counselors and parents who are advising students



Getting Proactive

WHETHER OR NOT computer science enrollments will rebound in the next few years is uncertain, but either way, it's clear that companies can't just sit back and expect colleges to provide a steady stream of programmers for them to hire. Countering the shortage will take outreach.

"The war for talent is not over," says Greg Fittinghoff, vice president of business systems development at Time. "Traditional recruitment methods are not enough to find the very best candidates." He advocates that businesses network with organizations such as the Society for Information Management, encourage referrals from other employees within the organization and develop in-house talent.

"We're hiring very junior candidates and investing in their training – professional and technical," Fittinghoff says. "The goal is to develop talented IT professionals who also have a very good understanding of our business and processes."

Companies are reaching deeper into the educational field to develop interest at an early age, including providing classroom speakers, sponsoring programming competitions, participating in job fairs and promising to hire leading graduates. But there are also unique opportunities, depending on one's own business model. For example, video game maker Electronic Arts Inc. in Redwood City, Calif., has donated its Sims characters for use in the Alice programmer training application. EA has also promised to hire 10 graduates a year from Carnegie Mellon University's computer science program.

At IBM, its Academic Initiative outreach program develops curricula for and provides free software and discounted hardware to junior high and high schools and colleges. It also works with companies on staff development.

"Wal-Mart's CEO said they couldn't hire enough people who really understand how to develop logistics and do the business process engineering around logistics," says Mark Hanny, vice president of IBM's Academic Initiative. "So we worked with the University of Arkansas to build courses, not just on how to program Java, but how to build the right business processes that would automate and support these processes."

These initiatives won't produce the programmers needed to meet immediate production demands, but they will ensure that there's talent to select from in the future.

"Companies can do a lot of things to fight for the finite pool of people that can be hired right now," says Carnegie Mellon professor Randy Pausch. "At the end of the day, however, the only effective action they can take is to increase the size of the pie that everyone can draw from."

– DREW ROBB

of potential career paths are reluctant about promoting CS/IT as an attractive choice," says Wanda Dann, associate professor of computer science at Ithaca College in New York. "They are uncertain about well-paying jobs being available upon graduation."

Dann says computer science might have hit a low point on enrollments, but statistics have yet to indicate that there will be an increase by 2010. "More needs to be done," she says. "For example, the communications media could contribute by picking up coverage of the shortage and helping us to get the word out to parents and guidance counselors around the nation."

But a more fundamental issue lies in the failure to attract students at an early age. Randy Pausch, a professor in Carnegie Mellon University's computer science department and co-director of the university's Entertainment Technology Center, says a major factor is IT's image. As Pausch puts it, "The field has a well-deserved reputation for people who are socially inept introverts."

This is compounded by a high dropout rate among those who do embark upon a computer science degree.

"On average, at least half of college students majoring in CS/IT withdraw from the major, and the majority of these students withdraw during the first year," says Dann.

To counter that trend, outreach activities, particularly for girls and underrepresented minorities, have been established, as well as efforts to improve IT's image.

Experts say a revamping of the way the subject is taught is also needed. Toward that end, Pausch, Dann and others have developed a new approach to teaching programming. It features educational software known as "Alice" and uses a drag-and-drop method to teach object-oriented programming; it's available as a free download at *www.alice.org*.

Once students learn the basics of object-oriented programming, it's easier for them to code it. A National Science Foundation study of at-risk students found that those who used Alice had a grade of B in first-level computer science, compared with a C for a control group. And 88% of those who started out with Alice moved on to second-level computer science, compared with only 47% of those who didn't use Alice.

"We're highly optimistic," says Pausch. "Reports from the field, especially from community colleges, are that the Alice approach is highly motivating for kids, and being motivated to do the work is a great reason to want to stay in a major."

But one of the biggest benefits is that it opens up the programming field to women and girls who previously wouldn't have been interested in computer science, instantly doubling the number of potential recruits. Pausch says projects like Alice will help soften IT's image and attract a wider range of students.

"The people who make video games and do [computer-generated] effects for movies already have a sort of cool image, because what they make is cool," he says. "Plus, getting more women into the field will, in and of itself, reduce the geek image."

One other major change is that IT is no longer being viewed as a strictly separate discipline. Rather, it is regarded as a method to enable other types of activities. "IT is showing up pervasively across many jobs," says IBM's Hanny. "We are getting a lot of demand across fields — not just IT and engineering, but business schools and nursing schools who want to be able to integrate IT into their core curriculum."

So if a company is looking for IT staffers to automate its supply chain operations, for example, it can go one of two ways. The company can train someone who majored in computer science in the intricacies of supply chain management. Or it can hire a business major who understands supply chain management but has also taken some computer classes. In the second scenario, some of the coding might need to be done by a consultant, but the resulting solution might better address the company's business needs.

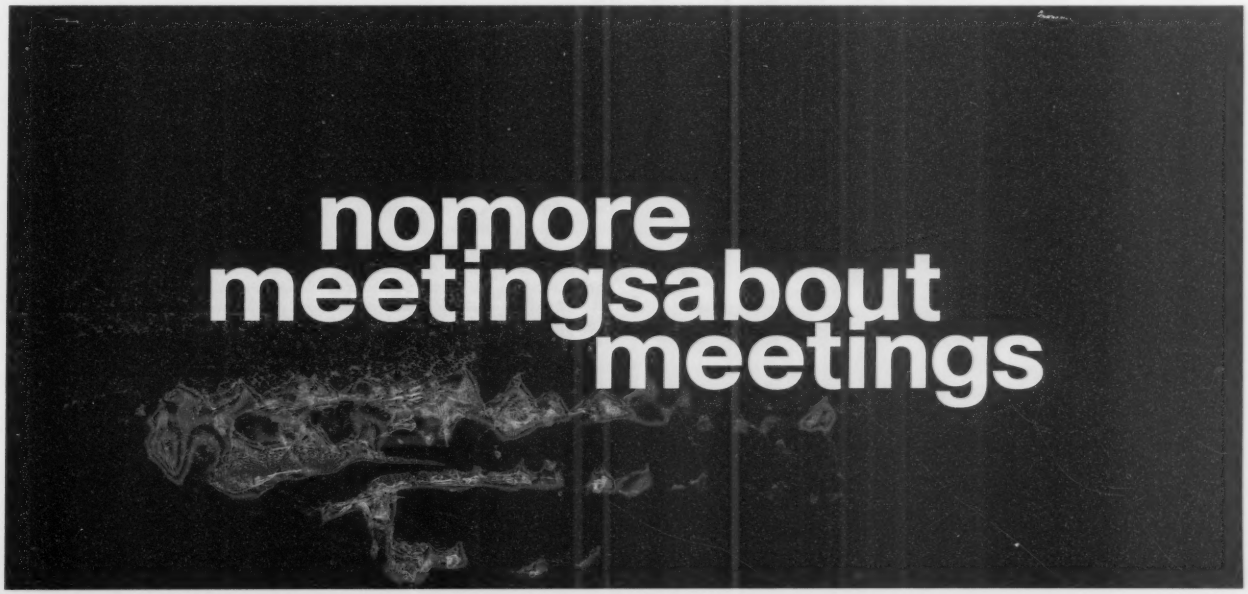
"It isn't the technology. It is the business model that is creating new ways for companies to differentiate themselves in the marketplace," says Hanny. "And those business models are all IT-related.

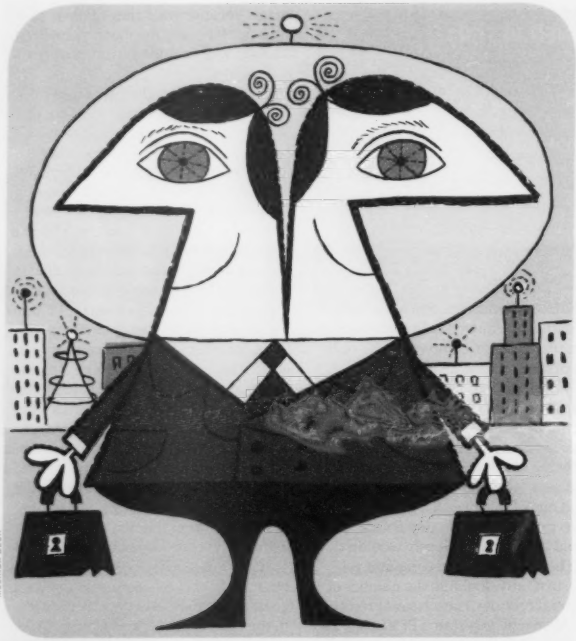
Robb is a Computerworld *contributing writer.*

ADVICE FROM A SEASONED VETERAN

Aspiring IT students should embrace the IT profession but hedge their bets by also acquiring a strong business background. Get a business degree with a concentration in IT. Businesses will always need people who can understand business and figure out how to make IT address its needs. **Don't get too specialized until we see where the IT field is really headed.**

FORMER CIO AT ACE HARDWARE CORP.





There's a Merger In Your Future

Industry consolidation won't slow down. The IT survivors will be skilled in systems integration and business analysis.

By John S. Webster

MERGERS AND acquisitions have become a way of life across many industries. With vendors, competitors and in some cases their own companies consolidating at a rapid clip, enterprise IT managers and staffers at all levels have to stay on their toes in order to ensure job security.

Looking ahead to 2010, M&A activity will continue to be an almost everyday occurrence. So the big question is: Who will survive the turmoil?

Amid this ongoing consolidation, IT staff volatility has become an issue for everyone, from software maintenance teams to CIOs. Oracle Corp.'s acquisition of PeopleSoft and the recent mergers of Harrah's Entertainment Inc. and Caesars Entertainment Inc., as well as The Procter & Gamble Co.'s takeover of Gillette Co., are just a few recent examples. Many other consolidations are under way in the financial services, utilities, health care and manufacturing industries.

Three attributes will help IT workers in all levels at the turn of the decade: agility, the ability to learn new technology, and a thirst for knowledge about not only their own jobs and those of their co-workers but also those of their peers at companies in North America and overseas.

Take it from someone who has been through a few mergers. According to Barry Libenson, CIO at Ingersoll-Rand Co., in 2010, IT workers' value to the company will be based on how well they use and build on their IT skills, across their own companies and industrywide.

"If I'm a $100 million company and I'm an acquisition target, I want to be as valuable as possible, even the most valuable, to the acquirer. [To become that worker] it's a good idea to build skills around mainstream, standard or next-generation technologies. More contemporary and less legacy is also value added," says Libenson.

Elsewhere, in financial services, where recent M&A activity has included many marquee names, it takes a lot of work for an acquirer to integrate the IT staffers from a target company.

At UBS AG, a Zurich-based financial services firm with offices worldwide, juggling the needs of an expanded IT staff while integrating systems with existing business priorities is "a struggle," according to Seth Osher, a director at the company.

"In terms of staffing, [M&As] can increase the pool of workers, but it can also mean that you're first shackled with trying to redeploy displaced workers that might not meet your team's standards, instead of going outside the company [for their services]," says Osher. "In my experience, this is the single greatest challenge: maintaining existing focus and delivery while coping with the integration problems."

Although there are some upsides — such as increased developer efficiency — short timelines and coordination across many systems and business functions further complicate the process, he says.

This is a challenge across industries, adds Glenn Cullen, an analyst at Forrester Research Inc. The business manager plays a crucial role in helping to attenuate difficulties in the postmerger entity, he says.

"They know not only business processes, but how IT implements those processes with technology," Cullen explains. "You need to make a set of business decisions, and to do that, you need a lot of input from the business analyst. If possible, you should use them from the acquired firm, if they have many of them in the first place."

In the banking industry, which will continue to see major consolidation nationwide, a worker is valued based on how much he contributes to keeping the organization in the black — always key in financial markets, says Carlton Ahern, testing infrastructure architect at Zions Bank in West Valley City, Utah.

"A lot [of your success] has to do with where you're strategically aligned

Tips for Surviving Ongoing Industry Consolidation

"When we acquire, we want to avoid companies that use proprietary systems. We've replaced people who have no matches to our technology. We also ask, "Can they grow into it, or are they only familiar with older technology?" If they've got a fundamental skill set, they're perceived as value added. On the plus side, I'm aware of a lot of employees coming in through acquisitions who have expertise in customer-facing systems. They already understood CRM platforms [that we use]. Other incoming workers are still on 20-year-old ERP systems, which is not as desirable.

BARRY LIBENSON, CIO, INGERSOLL-RAND CO.

"We're all interlocking parts. It's a basic human function of the organization. If someone is only capable of doing one thing – processing a purchase order, for example – that is a dead-end street. Think strategically. How can you help this organization? You can work with suppliers, who might be on the contract management side within the company. Or they might be outside suppliers or enablement partners. Even if you're only on the purchasing side, and you don't do extranet or supply portals, those are places you can improve.

ALBERT PANG, ANALYST, IDC

"In addition to the business analyst, another important role will be that of the application architect or integration specialist. You're integrating business apps too, and the merged or acquired firm cannot act as one firm until you have the same set of applications. You need the architect to understand if the strategy is an end or a stopgap.

GLENN CULLEN, ANALYST, FORRESTER RESEARCH INC.

in the organization. How do you contribute to the bottom line?" Ahern says. "The second item is, how closely are you aligned to the strategic direction of the company?"

Across the banking industry, mergers and acquisitions are done in part so companies can acquire technology or market share.

"You have to understand where in the organization you are and where you stand on the balance sheet," Ahern explains. "How effective are you? Demonstrate your effectiveness in the organization and industry as a whole, and 'meter' that."

Although there have been regulatory edicts pertaining to corporate human resources, there has been little pressure from government bodies to shape the way companies handle staffers following a merger or acquisition. One of the few examples is oversight by the Office of Federal Contract Compliance Programs, says Lisa Rowan, an analyst in Framingham, Mass.-based IDC's human resources services group.

"Anyone that does government contract work, or plans to in the future, has to adhere to requirements around the retention of job application records, for example," says Rowan. "This is to ensure that the employer is doing the right thing with regard to hiring minorities and other employees."

Whether postmerger pressure is brought on by the introduction of unfamiliar technologies, an alien IT infrastructure and company business strategy, or the occasional regulatory guidelines, the best advice for IT workers as they look ahead in a rapidly consolidating business world might be the old adage "A rolling stone gathers no moss."

You have to understand where in the organization you are and where you stand on the balance sheet. How effective are you?

CARLTON AHERN, TESTING INFRASTRUCTURE ARCHITECT, ZIONS BANK

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Webster is a freelance writer in Providence, R.I. Contact him at john.s.webster@verizon.net.

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SCOTT NIBAUER

The IT department will still exist, but the sharpest tech workers will move effortlessly between IT and business units. By Mary K. Pratt

As more CIOs move toward business and IT alignment over the next several years, the makeup and structure of IT will change. IT and business unit employees will work more closely together — and in some cases, interchangeably.

But today's technology leaders say this trend doesn't signal an end to the independent IT department, which still plays a critical role in companies by providing the structure, expertise and continuity needed to build and maintain a strong infrastructure.

"Someone needs to collect and manage things. If you leave it up to the different business units, even if they're technology-savvy, there's no leader across the company. So the need for a clear strategy will warrant a collective umbrella we call IT today," says Autumn Bayles, CIO at Tasty Baking Co. in Philadelphia. "But we will see more of a blur between whether you work in IT or work in the business. You'll see more opportunities to cross between the lines."

Bayles is already seeing that happening. "My folks are always out in the business," she says. And conversely, Bayles says, there are tech-savvy "superusers" in the business units who work with her.

The line between IT and business is blurring even in her own position. Bayles has a mix of business responsibilities in addition to ones involving IT; she took over distribution, supply chain and manufacturing planning, and customer service a year ago.

"It's largely driven by the fact that the technology is so embedded in the processes of those operations that it's a natural [combination]," Bayles says, adding that CIOs will increasingly pick up other responsibilities in the coming years.

On the other hand, Bayles also has pure technologists with-

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in her 13-person IT department. She points to an SAP specialist on staff who is highly valuable in his role.

In the 2010 job market, Bayles and other CIOs say, such deep technical skills will still be needed to maintain "the pipes and plumbing." But they also say that as their companies move toward adopting alignment as a model, they will use outside vendors to gain those skills. Those left as internal IT staffers will need technical skills, but they'll need much more business knowledge to succeed professionally, says Saby Mitra, an associate professor of IT management at Georgia Institute of Technology's College of Management in Atlanta. "You're going to see a situation where technical knowledge is important," he says, "but it's only a small part of the picture."

For example, when Traci A. Logan interviews developers, she's interested in how well they collaborate with others and manage projects, as well as how quickly they can learn. Their IT credentials? While still critical, they are increasingly becoming secondary to business acumen and related skills.

"That [business skill set] is going to be more important than the straight technical skills they know, because you're going to see a closer marriage between the business and IT," says Logan, vice president of information technology and vice provost for academic affairs at Bentley College in Waltham, Mass.

Logan and other tech execs are aligning their IT departments' resources and projects with their organizations' overall goals and objectives — a move that requires IT workers who know how business works.

Project Management in Demand

The must-have skills for IT staffers four years from now will include excellent verbal and written communication skills and strong organizational skills, says Katherine Spencer Lee. As executive director of Robert Half Technology, a Menlo Park, Calif.-based IT staffing company, Spencer Lee is already seeing an increasing demand for project managers and business analysts — the business-facing technology positions that are key to successfully aligning IT and the business units.

Likewise, IT executive Phil Zwieg says he sees a growing need for tech workers who can handle project coordination, project risk assessment and project budgeting. He also sees more need for workers who have expertise in a particular industry or in domains such as accounting, finance and human resources.

"I see all of those things getting emphasis as we roll into the 2010 time frame," says Zwieg, vice president of information systems at Northwestern Mutual Life Insurance Co. in Milwaukee and vice president for advocacy and communities of interest at the Society for Information Management (SIM), an association of senior-level IT professionals.

IT positions will require not only all of the basic technical competencies, but also negotiation and contract management skills and the ability to manage relationships with outside vendors, says Kate M. Kaiser, an associate professor of IT at Marquette University and coordinator of a recent SIM study titled "The Information Technology Workforce: Trends and Implications 2005-2008." Similarly, tech workers who have experience working with foreign companies — specifically those in China and India, two big players in offshore services — will be in big demand by 2010, she says.

Although IT leaders agree that tech workers will need more and more business skills in the next several years, they disagree on how that will affect the actual structure of the IT department.

Some say IT and business units will overlap, with more IT staffers shifting into business roles. Mitra says a hybrid structure will evolve: One group will be dedicated to maintaining standardization and consistency within the infrastructure, and the other will be a decentralized organization in which business analysts in business units answer to business executives, with a dotted line to the CIO.

But others say that kind of change won't occur by 2010.

"What will slow it down will be the need to manage the pieces," Bayles says. "You always need that organizational structure to be effective at getting things done. Maybe someday we'll overcome that, but I don't see it happening in the next four years." ▸

Pratt is a Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

What You Should Do Now

AS A TECH PROFESSIONAL, you should see plenty of job opportunities in the future – if you have the IT skills and business aptitude that will be needed in the 2010 job market. To determine whether you have the right combination of skills, do a self-evaluation. Think about where you want to be four years from now. Do you want to be a tech specialist, or do you want to be a CIO?

Once you've decided on a career path, determine which skills you have, which ones you need to polish and which ones you need to obtain. If you are or want to be in a business-facing role, you'll need to complement technology know-how with business skills. Here are some tips:

- **Consider getting certified in project management**, says Phil Zwieg, vice president of information systems at Northwestern Mutual Life Insurance.
- **Take courses in process management and business processes** to get a better understanding of how business operates, Zwieg says.
- **Join professional organizations to tap into their educational programs.** The Society for Information Management, for example, offers the Regional Leadership Forum, which helps participants gain management and IT skills. Consider non-IT organizations as well. Katherine Spencer Lee, executive director of Robert Half Technology, points to Toastmasters International as a place to sharpen your presentation skills.
- **Find ways to practice what you've learned.** "You never master what you don't practice," Spencer Lee says. If you've been working on your speaking skills, for example, volunteer to make the next big presentation.
- **Consider earning an advanced degree**, particularly one that combines an MBA with a master's in technology. That can give you the edge you need to succeed, according to Catherine Usoff, chairwoman of the information and process management department at Bentley College.
- **Remember old-fashioned career-building skills.** Develop contacts, keep up with the latest news, find a mentor, and have a can-do attitude, says Autumn Bayles, CIO at Tasty Baking.

Here are some tips to consider if you want to develop deep technical knowledge:

- **Strengthen your communication skills**, Zwieg says. The ability to speak and write effectively will never let you down.
- **Get certified in your areas of expertise.** "You'll still have people who will need to know the nuts and bolts of technology," says Traci A. Logan, vice president of information technology and vice provost for academic affairs at Bentley College.
- **Be flexible**, says Stephen Pickett, vice president and CIO at Penske Corp. in Bloomfield Hills, Mich., and president of SIM. "You don't know what the technologies of 2010 will look like."

– MARY K. PRATT

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ess and IT Blurs

Snapshots

Tightening Grip

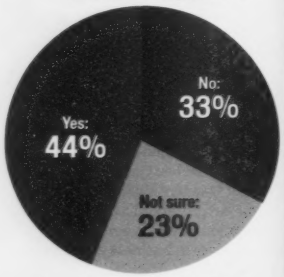
In the past year, my work conditions have been significantly affected by:

1	Increased workload (due to staff cuts)	45%
2	Budget cuts	44%
3	Increased outsourcing	29%
4	Training cuts	29%
5	Permanent staff layoffs	28%
6	Canceled project(s)	25%
7	A hiring freeze	24%
8	A salary freeze	22%
9	Mergers/acquisitions	18%
10	Contract/consultant hires	16%

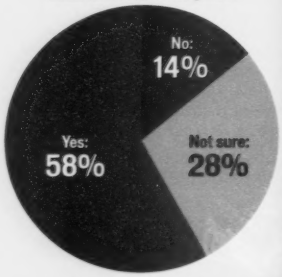
NOTE: MULTIPLE RESPONSES ALLOWED.

Small Comfort

Do you feel you have job security at your current company for the next five years?



Do you feel you've chosen a skills area that will ensure future employment for the next five years?



SOURCE: EXCLUSIVE *COMPUTERWORLD* SURVEY OF 1,137 IT PROFESSIONALS, MAY 2006

THORNTON A. MAY

IT Sweet Spots: 2010

WHAT DO ice hockey legend Wayne Gretzky, Prussian Gen. Gebhard Leberecht von Blucher and Texas tycoon Ross Perot have to do with an examination of where the points of greatest success and impact — the sweet spots — of the IT profession will be in 2010? Very simply, these bigger-than-life historical figures tell us where and where not to look for answers.

Gretzky has been lionized by strategic consultants for his widely reported and oft repeated comment, "I don't skate to where the puck is. I skate to where the puck is going to be." As we tease out sweet spots, we need to look forward, not backward, and not at the present.

Blucher, when queried about his providential and very timely arrival on the field of battle at Waterloo, is thought to have commented, "We march toward the sounds of the drums." You want success? You're going to have to be where the action is.

Billionaire and two-time presidential candidate Perot dramatized how emotion, euphonious phrasing (remember that "giant sucking sound"?) and a lack of facts can distort our understanding of the future job situation.

Researchers at the IT Leadership Academy embraced the outlooks above and undertook a unique examination of what will be really important for jobs and careers in 2010. We didn't use the traditional research firm method of extrapolating where technology is going and then bolting on a few afterthoughts about what kind of technologists will be required to support this environment. This machine-centric mode of forecasting the future produces benefits — great charts, the occasional can't-get-out-of-your-mind sound bites and factoids, and lots of headlines — but not much in the way of things mere mortals can really use.

Instead, we used a work-centric planning method. We looked at how the world of work will evolve. We identified three competencies guaranteed to be important in 2010.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

Leadership: The No-Brainer Future Success Assessment Tool indicated that the "giant sucking sound" in IT is coming from what many forecast as a soon-to-be-devastating crisis in IT leadership (see box at right). The No. 1 issue on the minds of great CIOs is leadership. The IT shops that *Computerworld* will be writing about and celebrating in 2010 are those that have transformed themselves into human capital development factories. Just as GE is able to create great business leaders, great IT organizations will generate great IT leaders. Top of the pile today would be Tom Shelman at Northrop Grumman, Barbra Cooper at Toyota and Rebecca Blalock at Southern Co. If you want a great IT shop, check out the people who work for the CIO. If they inspire awe, you're in the right place.

Bottom of the pile would be those folks who get inadequate leadership training — or none at all.

Information management: The "sounds of the drums" point to information management as the next source of competitive advantage, value creation and public relations disasters. Within the information management bucket, we include records management and retention, compliance, privacy, business intelligence and business analytics. Each of these previously isolated, unloved, unintegrated and underengaged specialties is going to be big.

In 2010, there will be a whole lot more information floating around. Customers and regulators will expect IT to know what is known, protect what is private and generate bordering-on-clairvoyant levels of service. The whole issue of IT and the law is going to be very big in the future.

Change management: High-end observers of executive behavior John Gardner and Warren Bennis agree that they (and most other gurus) chronically underestimate the capacity of large-scale systems such as Congress, General Motors and the Catholic Church to resist change.

If you want to build an evergreen career, I suggest you develop deep skills in leadership, change management and information management. ▸

NO-BRAINER FUTURE SUCCESS ASSESSMENT

Take out a sheet of paper. At the top write the word "Boss." Underline it. Several spaces over, write the word "CIO." Underline it. Several spaces over, write the words "IT Leadership." Underline them. On the far right-hand side of the page, write "Percentage of Career in IT." Underline it.

STEP 1: Ask your boss, "When you hear the word *crisis*, what immediately pops into your mind?" Write it down under the "Boss" column.

STEP 2: When you hear the word *crisis*, what immediately pops into you mind?" Write it down under the "CIO" column.

STEP 3: Compare, contrast and discuss your respective answers with your boss.

STEP 4: When you hear the words *IT leader* or *IT leadership*, what immediately comes to mind? Write it down under the "IT Leadership" column.

STEP 5: Answer the question, "During what percentage of your career in IT would you say you were well fed?" Write it down under the "Percentage of Career in IT" column.

STEP 6: Was the word you wrote down in answer to the question in Step 4 your name? Why not?

STEP 7: Discuss your answers to the questions in Steps 5 and 6 with your significant other and your boss.

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8:30am to 8:45am	**Introduction and Overview** Julia King, Executive Editor, Events and National Correspondent, Computerworld
8:45am to 9:30am	**Moving Towards the Agile Enterprise** Michael Hugos, Former CIO, and Author of *Essentials of Supply Chain Management* and *Building the Real Time Enterprise: An Executive Briefing*
9:30am to 9:45am	**IT End User Case Study: BNSF Railroad Company** Jeffrey McIntyre, Assistant Vice President, Technology Services, BNSF Railroad Company
10:00am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:45am	**IT End User Case Study: Maryland Automobile Insurance Fund** Cindy Hughes, Chief Information Officer and Director of IT, Maryland Automobile Insurance Fund (MAIF)
10:45am to 11:15am	**IT End User Case Study**
11:15am to Noon	**Panel Discussion** Moderator: Julia King, Executive Editor, Events and National Correspondent, Computerworld Panelists: Cindy Hughes, Chief Information Officer and Director of IT, Maryland Automobile Insurance Fund (MAIF); Michael Hugos, Former CIO; Jeffrey McIntyre, Assistant Vice President, Technology Services, BNSF Railroad Company

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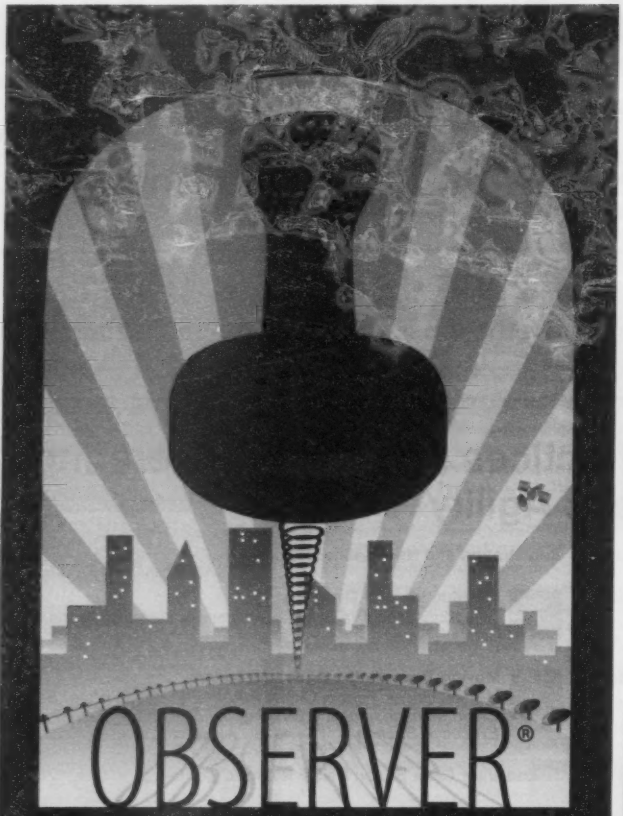

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HIPAA

it works with have applied to the federal government and received their new ID numbers, according to Harry Reynolds, the insurer's vice president of information systems planning.

That is making it difficult for Blue Cross and Blue Shield to ensure that it's effectively altering its systems so they can accept the new numbers, Reynolds added.

"Until we see some of the large institutions taking their numbers, whether we have everything covered . . . will have to be determined," he said. "No one can declare victory, because the other part of the equation is sitting out there in a bit of an unknown. We don't think we will get shocked, but we could still get surprised."

Reynolds wouldn't disclose the expected cost of the NPI project, saying only that it affects about 35% of the applications at Blue Cross and Blue Shield and 50% of its business processes. The insurer will maintain its internal legacy ID numbers and match them to the NPIs, a strategy commonly called crosswalking.

Ideally, Reynolds said, all health care providers will obtain their NPI numbers by January, which would give the insurer five months to test its work before the May compliance deadline.

MEDICAL RECORDS

National Provider Identifier

- Replaces all other ID numbers previously used by health care providers, which are typically assigned different identifiers by each insurer they work with.
- Encourages the electronic transmission of health care information between providers and insurers.
- Is aimed at reducing health care fraud, transaction errors, redundant administrative efforts and costs by establishing a standard ID format.

> **No one can declare victory, because the other part of the equation is sitting out there in a bit of an unknown.**

HARRY REYNOLDS, VICE PRESIDENT OF INFORMATION SYSTEMS PLANNING, BLUE CROSS AND BLUE SHIELD OF NORTH CAROLINA

End Is in Sight

BlueCross BlueShield of Tennessee Inc. last week began to review designs for the second phase of its NPI project, which calls for crosswalking the 11 internal systems that will need to accept NPIs. The new phase will take about 10,000 man-hours and is set to be completed at the beginning of October, said Wayne Wilson, director of government systems at the Chattanooga-based company.

After that, the insurer will begin working on the final phase: preparing systems to reject transactions that don't include an NPI. That part of the project is expected to take until next May to complete.

BlueCross BlueShield of Tennessee, which does business in 47 states, has distributed newsletters and held workshops in an effort to get health care providers to apply for NPIs so it can load the new data into its systems, Wilson said. However, it still anticipates that many providers will wait until the last minute to obtain their numbers. "We have no leverage" over them, said Wilson, who wouldn't disclose cost data for the NPI project.

Premera Blue Cross in Mountainlake Terrace, Wash., has only about 20% of the NPIs it will need by next May, said CIO Alan Smit. His staff is also concerned that the federal government has yet to announce whether and when it will provide a bulk file of NPIs to insurers. In addition, Premera's database team can't prepare for the process of validating incoming NPIs because it doesn't know how the government plans to provide verification capabilities, he said.

Premera, which operates in Washington and Alaska, doesn't have to deal with the crosswalking issue because it uses the tax ID numbers of health care providers, which are matched to names and addresses for verification. Instead of having to heavily modify its systems to process a new number attached to every reference to an individual provider, Premera will only have to add another data field to them, Smit said.

However, Smit noted that NPI compliance is "a significant effort" that will affect 80% of the insurer's systems. He said Premera spent about 10,000 man-hours on the project last year and expects to devote another 30,000 this year as it works to become capable of processing the new IDs by the end of December.

"Like Y2k, I have to go in and add a data element every place where we want to identify a provider," Smit said. In addition to changing the systems used to process claims, Premera has to add a new field to its customer service systems so that when physicians call in to ask about the status of claims, workers can use their NPIs to locate the proper filings.

Katy Henrickson, an analyst at Forrester Research Inc., said that although most insurers have sufficient plans in place to comply by the deadline, unanticipated issues such as how they can collect the NPIs have left many "feeling unprepared." Forrester surveyed eight insurers on NPI compliance issues for a report that the consulting firm issued in May.

Peggy Wiley, senior project manager in the enterprise portfolio management office at The Regence Group, said NPI compliance work is expected to cost the Portland, Ore.-based company a total of $6 million over 30 months. The insurer is made up of Blue Cross and Blue Shield plans that operate in Idaho, Oregon, Utah and parts of Washington.

But the work is yielding some benefits, Wiley noted. For example, because Regence has to look at all of its provider files, the project is an impetus for the company to continue a data-cleansing project that it began about 18 months ago, she said. ▸

> **Like Y2k, I have to go in and add a data element every place where we want to identify a provider.**

ALAN SMIT, CIO, PREMERA BLUE CROSS

Health Care Providers Face Their Own Hurdles on New ID Numbers

WHILE INSURERS are anxiously awaiting incoming National Provider Identifier numbers from the doctors and hospitals they work with, medical services providers such as Partners HealthCare System Inc. are still working to prepare their own systems for compliance with the mandate that they use the NPIs.

Boston-based Partners formed a 50-member NPI task force last winter. The group meets monthly to review compliance progress at the 15 health care organizations that make up the company, said Susan Kananovich, its corporate manager of revenue and decision-support systems. She noted that adopting NPIs will affect various systems at Partners, including those that handle patient registration, medical records and billing.

Massachusetts General Hospital in Boston has completed 95% of the work needed to comply with the NPI requirements, but Partners' other member hospitals are only about 30% to 40% of the way through their compliance efforts, Kananovich said. Nonetheless, all of the hospitals have guaranteed the task force that their NPI numbers will be in place by the fall, she added.

Many of the needed changes to the software used within Partners are being made by product vendors, according to Kananovich. "I don't think there are any red flags at this time on that front," she said.

However, she noted that the most time-consuming compliance work will be the testing of transactions with health insurers. Although the health plans will map NPIs back to their legacy ID numbers, health care providers will need to participate in testing and auditing the mapping process, Kananovich said.

An NPI workgroup within the New England Healthcare EDI Network LLC held its first meeting last week on developing a common approach to testing NPIs for claims and administrative transactions.

The regional organization – which includes health care providers and insurers – plans to develop an NPI readiness matrix to represent common issues that may arise during the testing process, said John Halamka, CIO at Harvard Medical School and CareGroup Healthcare System in Boston.

– HEATHER HAVENSTEIN

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FRANK HAYES ■ FRANKLY SPEAKING

Split Personality

CALL THIS a tale of two IT shops. For one, it's the best of times: Last week, the Department of Veterans Affairs won a prestigious innovation award for its electronic health records system, VistA — the largest and most successful EHR implementation in the world, saving money and improving health care quality for more than 5 million military veterans.

For the other, it's the worst of times: Even though the VA has recovered the stolen laptop that contained personal data on 26.5 million vets and active-duty military personnel, the department still displays the IT security profile of Swiss cheese. New data losses and procedural lapses keep coming to light.

How can an IT outfit so good be so bad?

We all know the answer to that one. Obviously, the VA is great at application development and lousy at operational security. They're two different IT functions.

Still, the contrast is jarring. And it should be.

The VA's Innovations in American Government award came from Harvard University's John F. Kennedy School of Government. Notably, it wasn't an award for a successful IT project, but for a successful government program. Six other programs also got innovation awards last week, but none of them were IT systems.

Even more impressive are the ROI numbers for VistA: Maintenance cost of just $87 per patient per year. Health care cost per patient reduced by 32% over 10 years. Medication errors reduced by two-thirds. For a single pneumonia vaccination program that VistA made possible, pneumonia hospitalizations were cut in half, reducing costs by $40 million annually.

Largely thanks to VistA, VA patient satisfaction has beaten the private sector for six straight years. And last year, when Hurricane Katrina knocked out the VA's medical centers in New Orleans and Gulfport, Miss., medical records for the 40,000 veterans in the area were still accessible, so the vets could resume treatments and get prescriptions refilled.

That's not just good. That's spectacular. It's everything we want IT to accomplish.

But then there's that other VA IT — the security nightmare that left tens of millions of vets fearing identity thieves. The one in which sensitive data was left unencrypted and removed from the physical security of VA offices for years. The one where no one knew for weeks exactly what data had been exposed, and the loss wasn't even reported up the chain of command for 19 days.

That's everything we want IT *not* to be.

There's an irony here. What's made VistA so great is that its development has been relentlessly focused on what users actually do in the VA's hospitals and clinics.

Not what they're supposed to do. Not what some analyst believes they should do. But what they really do.

And what made that stolen VA laptop such a nightmare was that the VA's IT security has ignored what users really do with data. Instead of spotting users as they downloaded sensitive data they didn't need and carried it out the door unencrypted, the IT watchdogs missed it. They missed the problem, and they missed their chance to do something about it.

This isn't just two different IT functions. It's two completely different ways of thinking about users and IT.

Decades of paying attention to what users need have paid off in a big way with VistA. But years of failing to monitor what users do has created a security scandal so big that it could overshadow VistA for years to come.

So as this department slowly moves beyond its security mess, it's worth remembering that the VA is one of the biggest IT successes in all of government — and also one of the greatest failures.

And it's worth keeping in mind that the VA doesn't really need two IT shops.

Just one.

The one that's focused on users.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

Unclear on the Concept

Vendor sales guy is demonstrating an e-commerce tool for a roomful of decision-makers and this pilot fish who's sitting in. "The sales guy left his instant message client on but minimized," reports fish. "Once in a while, messages would pop up on the screen. As the fourth message popped up, our president asked the salesman, 'How much extra would it cost for us to have that green pop-up message thing?' To this day, he still doesn't understand why the audience of 12 people started cracking up."

SHARK TANK

Details, Details

Pilot fish receives a copy of an e-mail request: "I'm requesting a laptop for tomorrow morning so I can work in a coffee shop during the soccer game. A 90-minute game with halftime would come to two hours. If I work during the game and achieve 50% productivity, then work through my lunch hour, I will have an eight-hour day." And next to arrive is the supervisor's veto: "Please note: Sender did not provide productivity or duration information for (1) loading files to be used and (2) pregame and postgame time BS-ing about the irritainment."

Oh, Never Mind

User needs a large test-study booklet to use at home, but he only has a home dial-up connection, so he decides to download it at work and burn it to a CD. "I thought that was a good decision," says IT pilot fish. "He changed his mind, though, and sent me this message: 'I can just e-mail from my computer here to my home computer. Since I have already downloaded it here, it shouldn't take as long to open it as an e-mail attachment at home.' Yeah, give it a try, big guy."

Power User

Facilities department needs to shut down power to the whole building on a Saturday, including the data center. IT pilot fish dutifully sends out several notifications, and Saturday morning, the power goes off. At noon, fish is paged by the plant manager who approved the power outage. "He wants to know why he can't get his e-mail from the server in the data center," sighs fish. "After I remind him that all the power is off in the data center, he wants to know how to get his e-mail. Umm, wait until the power is back on?"

How Do I Love Thee? Let's Count

After this support pilot fish solves an easy laptop problem for an agitated user – the NumLock was on – user gives fish his ultimate accolade: "If you get hit by a beer truck during this project, I'm screwed!"

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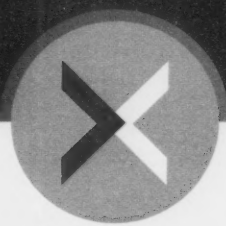

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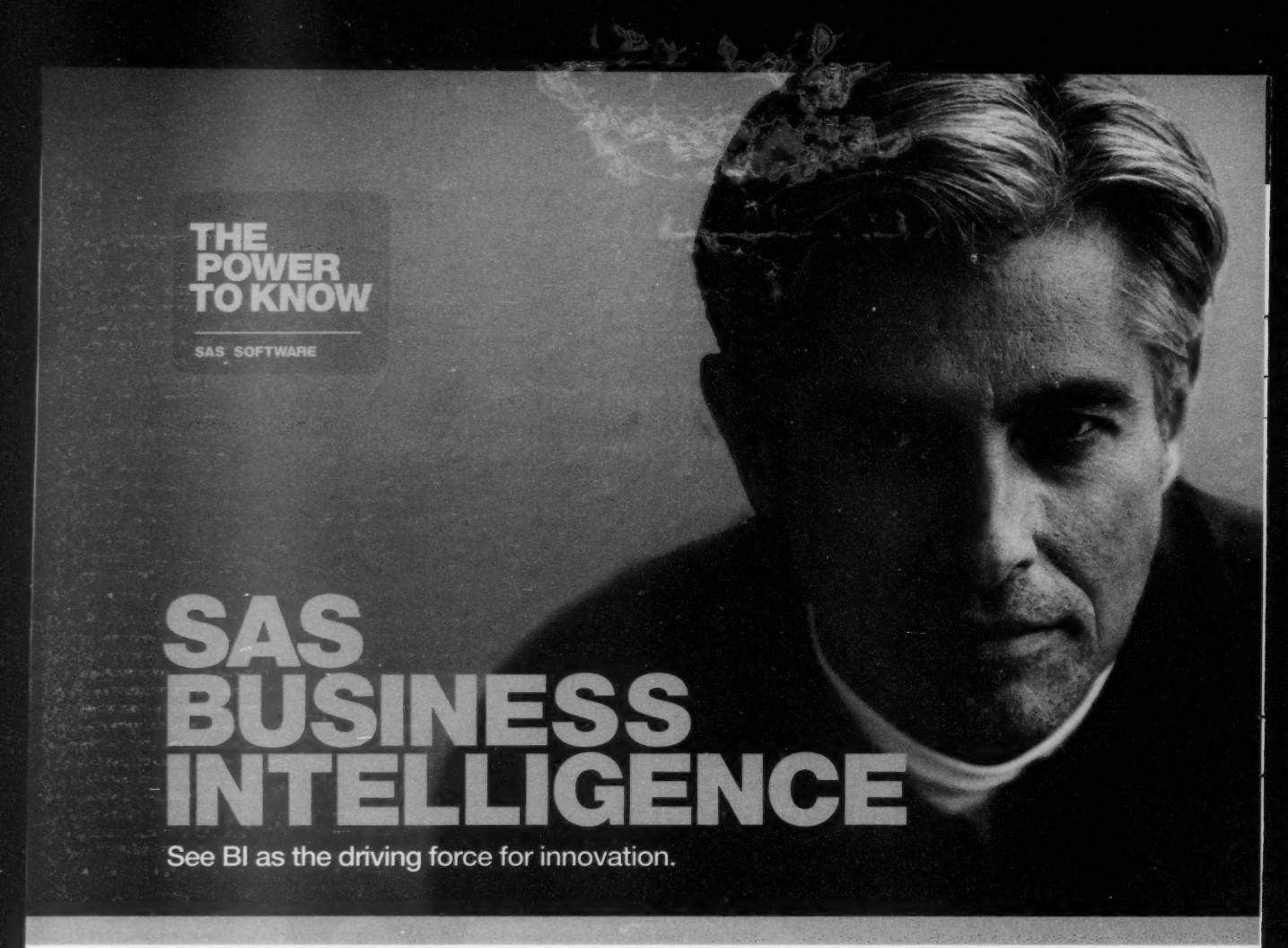

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